DOCUMENT RESUME

ED 310 269 CE 053 086

AUTHOR	Gachuhi, D., Ed.; Matiru, B., Ed.
TITLE	Handbook for Designing and Writing Distance Education Materials.
INSTITUTION	Nairobi Univ. (Kenya).
SPONS AGENCY	German Foundation for International Development, Bonn (West Germany), Education, Science and Documentation Div.
REPORT NO	DOK-1541-C/a
PUB DATE	89
NOTE	177p.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Adult Education; *Distance Education; Editing; *Instructional Materials; Layout (Publications); *Material Development; Printing; *Writing Processes
IDENTIFIERS	*Africa

ABSTRACT

Developed from a series of workshops in Kenya, this handbook offers practical guidance for those creating printed distance education materials for African students. The introduction describes the workshops and a short section explains how to use the handbook. Twelve units appear on the following topics: (1) overview of distance education; (2) distance education systems and subsystems; (3) learner characteristics; (4) writing objectives; (5) writing to be read and understood; (6) active learning; (7) developing a format for writing; (8) the role of visualization in distance education materials; (9) the editorial process; (10) practical aspects of pretesting distance education materials; (11) the printing process; and (12) a summary of course development from planning to printing. Units start with advance organizers for the unit and typically include in-text questions to think about, self-tests (answers appear at the back of the document), checklists, and writing assignments. Important points are marked for the reader. The document includes an 18-item bibliography. (CML)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED310269

University of Nairobi
Faculty of External Studies
Department of
Distance Studies

German Foundation for
International Development
Education, Science and
Documentation Centre

D. Gachuhi and B. Matiru (eds.)

Handbook
for Designing and Writing Distance Education Materials

Contributions by

H.S. Bhola
E. Chen
D. Gachuhi
J. Kamau
W. Laaser
B. Matiru
K. Mazrui
J. Müller

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

1989

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J. Muller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

DOK 1541 C/a
Deutsche Stiftung für internationale Entwicklung
Zentralstelle für Erziehung, Wissenschaft und Dokumentation
Bonn, Federal Republic of Germany

ZED

CE053086

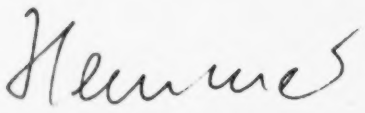
BEST COPY AVAILABLE

Foreword

There has been a great upsurge of distance education activities in Kenya over the last five years as evidenced by the increasing number of distance education programmes in diverse disciplines. Being a comparatively new educational approach with no provision for preservice training, many personnel and practitioners involved in the development, implementation and running of these programmes have had to pick up needed skills on the job. Their task is further constrained by the fact that there are no locally prepared training materials available.

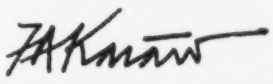
This handbook, which has grown out of the practical deliberations of the workshop series on designing and writing distance education materials, is a timely and significant contribution. The workshops were organized and facilitated by the College of Education and External Studies (CEES) and the German Foundation for International Development (DSE). The participation of both CEES and DSE faculty in the development of the content of this handbook gives it unique character that draws from both local and international expertise. The book is readable, comprehensive and relevant to Kenya and, as we hope, to other African countries as well. It should be a practical guide and invaluable resource for writers of distance education materials as well as anyone else working in the field of distance education.

The College of Education and External Studies, University of Nairobi, extends its deep appreciation to the German Foundation for International Development for funding the writing and production of this handbook.



Prof. Dr. H.-R. Hemmer

Director General, German Foundation for International Development



Professor F.A. Karani

Principal, College of Education and External Studies, University of Nairobi

Contents

Introduction		7
How to Use the Handbook		8
UNIT 1	Overview of Distance Education	10
UNIT 2	Distance Education Systems and Sub-systems	20
UNIT 3	Learner Characteristics	37
UNIT 4	Writing Objectives	43
UNIT 5	Writing to Be Read and Understood	51
UNIT 6	Active Learning	61
UNIT 7	Developing a Format for Writing	84
UNIT 8	The Role of Visualization in Distance Education Materials	107
UNIT 9	The Editorial Process	121
UNIT 10	Practical Aspects of Pre-testing Distance Education Materials	137
UNIT 11	The Printing Process	151
UNIT 12	A Summary of Course Development: From Planning to Printing	158
Answers to Self-tests		164
References		173
Authors		175

Introduction

The College of Education and External Studies (CEES) and the German Foundation for International Development (DSE) have organized and facilitated a series of writers' training workshops since 1985. The objectives of the workshop series are to:

- build a pool of experienced distance education materials designers, writers, editors and trainers;
- bring together personnel involved in distance education from formal and non-formal development training institutions to share their experiences and learn together;
- familiarize participants with the principles and practices of distance education;
- equip participants with the necessary skills in designing, writing and editing distance teaching materials;
- enable participants to design, write, pre-test and edit distance teaching materials for a specific course.

To meet the objectives of the workshop a number of theoretical inputs on distance education practices have been provided. The following topics were covered:

- Principles and practices of distance education
- Characteristics and needs of distance learners
- Course development for distance education
  - The process of course development
  - Selection of instructional methods
- Course production
  - Principles and stages of course writing
  - Active learning
  - Presentation: style, format, language
  - Illustrations
  - Principles of editing
- Assessment of learners
- The printing process
- Testing and evaluating course materials.

For each of these topics, a working paper was prepared. These were used in draft form and then later revised. Practical activities that grew out of the deliberations of the workshop training programme were also incorporated. This has resulted in the production of this handbook. It is hoped that the handbook will prove to be a practical guide and invaluable resource for writers of distance education materials.

We would like to thank all the participants and facilitators who gave useful suggestions on the working papers in draft form.

This handbook was written and produced with assistance from DSE.

How to Use the Handbook

This handbook can be used by a cross-section of people interested in distance education. It provides useful background information for administrators, tutors, and support staff. However, the handbook is especially intended for new writers of distance education materials.

One of the main advantages of the handbook is that it can be used as a training resource in a variety of situations. It can be used by:

- an individual studying it to gain new knowledge
- a distance education institution to train writers through a distance study course
- groups of writers in a training workshop situation.

This handbook has twelve self-contained units.

The first unit presents an introduction to what distance education is about. Each of the remaining units covers an important step in the writing process.

The structure of each unit is as follows:

- First there is an overview of the content of the unit.
- This is followed by the subject matter.
- As you study the unit there are questions for you to think about and answer.
- Each unit has self-tests. You should do them as you come to them in order to assess your progress. The answers to these are at the end of the handbook.
- At the end of each unit there is a checklist and an assignment.
  The checklist reviews the content of the unit and is especially useful for the writers who are developing a unit as they study the handbook.
  The assignment gives you a chance to apply what you have been learning. If you are using this handbook in a workshop, you can share the answers in your unit with your group. If you are using this handbook as a distance education course you can send in what you have done to your tutor for comments.

The examples in the handbook are taken from actual distance education courses, either in draft or printed form. Some of these are good models for you to follow while others have been selected for you to criticize and improve.

There are a number of symbols in the handbook to guide you as you study.

This tells you there is an overview of the unit and what the unit is about.

This tells you there is an in-text question to answer or think about in the text.

This tells you to take note of or to remember an important point.

This tells you there is a self-test for you to do.

This tells you there is a checklist.

This tells you there is a written assignment.

This tells you that this is the key to the answers for the self-tests.

We hope you find this handbook interesting and useful in your writing.

UNIT 1 An Overview of Distance Education

In this unit you will learn about:

- what distance education is;
- the main characteristics of distance education;
- some theories that have been adopted in distance education;
- the support services needed in distance education.

There has been a great upsurge in distance education all over the world. Government departments and private organizations have established distance education systems to deal with increasing educational needs that are unable to be met by traditional school systems. These distance education systems have basically been influenced by local needs and local environments. They therefore vary in structural organization and content. Despite these apparent differences they have some commonalities. They normally:

- give access to educational opportunities to people who are unable to go to school. These opportunities are from post-literacy to post-secondary and in some cases to post-graduate studies;
- are based on well-founded schools of thought;
- use innovative theories of teaching and learning;
- produce instructional materials that are interesting and stimulating to the learners. They tend to sustain the interests of the learners from the beginning of the course to the very end;
- take into serious consideration the needs of the learners;
- have effective administrative models that are responsive to the learners' needs;
- use the most effective medium or a multi-media approach;
- use two-way communication to support and facilitate student learning and assess students' progress;
- are more economical than the traditional forms of education and have no limit to the number of students who could learn simultaneously from one teacher.

Have you noted the differences between distance education and the more traditional forms of education?

What is Distance Education?

The term distance education is used to cover various forms of study at all levels where students are not in direct physical contact with their teachers.

You may be interested to note that the term 'distance education' acquired its universal acceptance in 1982 when the International Council for Correspondence Education (ICCE), a UNESCO affiliated organization, changed its name into the International Council for Distance Education (ICDE). Prior to this universal acceptance, a number of terms were used to describe this mode of teaching and learning.

Over the years there have been a number of definitions of distance education.

Correspondence Studies: The most commonly used term, which according to Holmberg has existed for about a hundred years, was correspondence study. This basically described the mode of instructional materials rather than what was entailed in learning at a distance. Nowadays, distance education relies mainly on the printed word but may use a number of other media such as radio, television, tape recordings, learning kits, telephone or computer. The term correspondence study therefore is not comprehensive enough.

Home Study: This is a term used in America, Canada and Australia to describe this system of education. While it emphasizes the home, a student may not necessarily study at home at all. This term is inadequate to explain the meaning of this mode of teaching.

School of the Air or School Broadcasts: These are common terms in Mauritius and England and many parts of the Commonwealth including Kenya. The term is restrictive to air programmes that can be tuned in over the radio and television.

Independent Studies: This is another popular term in America and Europe.

What is the study independent of? Is it the materials, radio, or face-to-face sessions?

As you can see, this term is too vague and confusing.

Distance Teaching or Distance Learning: Both terms are too confining. Distance teaching is too teacher-oriented and distance learning is too student-based.

Having examined all these definitions, we hope you now realize why the term distance education is the best definition.

This is because it is education which is offered to students who are at a distance, physically separated in space and time from their teachers.

Rationale for Distance Education: Distance education has been introduced to respond to growing educational needs which are not easily met or which are impossible to meet in traditional forms of education. Some of these needs are:

- to have courses for students to learn in scattered communities covering sparsely populated, large geographical areas such as found in Australia, Canada, North America;
- the training of teachers who are already working and cannot be taken away for more than a few weeks;
- the provision of educational opportunities for adults who have been deprived of education;
- the acceleration of manpower development;
- increasing the output of educational systems;
- to bring into the classroom expert knowledge, rare experiences and stimulating personalities;
- to update knowledge and skills;
- to initiate national campaigns which deal with health and political issues;
- to have a cost-effective programme for large numbers of students.

Although this list is not exhaustive it should give you an idea of the needs distance education is trying to meet. Its greatest asset is not only in meeting these needs but in accommodating almost limitless numbers of students.

Historical Background to Distance Education

It is important that you know something about how distance education came to be so popular. In the USA in the 18th century, a Boston gazette carried a change of address notice from a teacher of shorthand which said,

> Any person who wishes to study shorthand may have several lessons sent him weekly and he would be as perfectly instructed as the person who lives in Boston.

This was an offer to students who wanted to study shorthand through correspondence. It is rightly claimed that this must be the first recorded offer of a correspondence course.

In the 1840s a more famous name in shorthand, Mr. Pitman, started offering courses by correspondence. He is generally credited with being the first to start regular courses by correspondence including a two-way communication element. This spearheaded a number of correspondence courses in America and Europe.

By the end of 19th century, the systematic use of two-way communication by post for educational purposes, over a wide range of subjects became popular in America, Canada, Australia and Europe. As a result educational planners began to be more critical in the presentation of instructional materials and delivery systems.

In 1920 the Soviet Union introduced far-reaching innovations in distance education. Due to a great shortage of educated manpower, it developed an innovative structure of distance education where correspondence courses were integrated with regular university courses, including technical courses. This was the beginning of a multi-media approach to distance education and a breakthrough in teaching technical subjects to students at a distance. Occasional classroom attendance, however, was mandatory. It was also possible for students to be given credit for the part-time correspondence studies they had done and to switch to full-time studies at the university.

Indeed, the Soviet Union evolved the most innovative and sophisticated distance education model, which is the forerunner of the British Open University.

The British Open University introduced new:

- study methods;
- types of organization;
- categories of academic staff;
- tasks for professors and lecturers;
- approaches to distance teaching and learning.

What new innovations do you think the British Open University introduced?

Other universities of this type were started in Australia, Thailand, Canada, USA and Germany. Two of the most well-known are the Fernuniversität in Hagen, West Germany, and the Everyman's University in Israel.

Distance Education Associations

As a result of the tremendous interest in distance education all over the world distance education associations at national and regional levels are being formed. There is also a great deal of information being exchanged through published papers, books, newsletters and manuals. The field is becoming rich in literature.

The largest and best-known associations are:

- The Association of European Correspondence Schools (AECS): AECS has over 30 members from about 20 countries. It organizes seminars or workshops once a year. It also publishes a journal which has useful distance education articles from all over the world.

- The International Council for Distance Education (ICDE): This has a worldwide membership of individuals and organizations. It regularly issues a newsletter and organizes an international conference every three years.
- The African Association for Distance Education (AADE): The AADE was founded in June 1973 at a conference in Nairobi. It is not yet a very large organization.
- Australia and South Pacific External Studies Association (ASPESA): By contrast ASPESA is a very large and active organization which organizes conferences and workshops and has its office in Armidale, New South Wales, Australia.

You have now come to the end of the first section of this unit. Do the following self-test to see how well you have understood the material in this section. Check your answers on page 164.

Self-test 1

Write T if the statement is true and F is the statement is false.

1. There has been little interest in distance education over the last two decades. ____
2. The term distance education means studying far away. ____
3. Home study is a term used in America and Australia. ____
4. The first known correspondence course was offered in France. ____
5. One of the main advantages of distance education is that it enables people to study while they are still working. ____
6. Distance education is only good for adults who have been deprived of an education. ____
7. One of the greatest innovators in distance education was the Soviet Union. ____
8. The British Open University was a forerunner of the Russian model. ____
9. ASPESA is the distance education association that caters for Australia and the South Pacific. ____
10. The AADE was founded in Accra in 1969. ____

How did you do? We hope you got all the answers correct. You are now ready to go on to the next section.

Theoretical Approaches to Distance Education

Distance education has not come up with brand-new theories which can be authoritatively called distance education theories per se. It has either adopted the already developed theories of teaching and learning. Within such limits it is possible to cite some theories which are particularly relevant to distance education.

Skinner's behaviour control model: Skinner's stimulus-response theory has been applied to learning.

Distance teaching has adapted this theory of shaping behaviour in formulating learning objectives in measurable terms. Many distance educators believe that if learning objectives are specified in measurable terms, it is possible to organize learning experiences to achieve such objectives. Consequently it becomes easy to evaluate learning.

Rothkopf's model of written instruction: Rothkopf's model advocates having questions in the text which are aimed at structuring learning. These are known as in-text questions. They generally facilitate active learning. It is assumed that learning takes place more easily if connected with what has been learnt or if what has been learnt can be applied in solving problems that are relevant to the learners.

Ausubel's advance organizer model: Ausubel's theory of advance organizers states that:

- students acquire knowledge with the aid of a well-structured presentation;
- students learn new material in terms of what they already know;
- advance organizers serve as introductory material which is aimed at bridging the gap between what the student has already learnt to what he needs to learn and assimilate;
- we should begin a lesson from the most general and then go to the specific details.

Give two main ideas of Skinner, Ausubel and Rothkopf that have influenced distance education materials.

Egan's structural communication model: Central to this theory is the idea of presenting small doses of information. Exercises are then set to test the learners' understanding of this information. The answers are given so that the learners can check their progress. In distance education, the model has been adapted by providing self-tests after every section of a unit and the

answers to these tests. If learners score a low mark they are advised to study the section again more carefully before progressing to the next section.

Bruner's discovery learning model: Bruner's theory states that we should use a problem-solving approach when teaching new concepts. The most important contributions of Bruner's theory to distance education are:

- specifying learning experiences that learners have to go through;
- relating a body of knowledge to the level of the learners;
- sequencing information so that it can easily be digested.

Carl Rogers' facilitation model: Rogers' theory of learning is based on the need to facilitate knowledge rather than teach it in the traditional sense. According to Rogers, the work of a facilitator is to create a conducive and friendly atmosphere for learning. Students are given complete freedom to learn when and how they want. The relationship between a learner and a facilitator must be equal so that no one assumes a position of superiority.

Rogers' theory has been adapted to certain aspects of distance education:

- Students are free to select courses they want to learn. They are also free to study when they can and to submit their written assignments as specified by the course.
- The text is written in a friendly manner addressing the learner directly.
- Feelings of a personal relationship between the teacher and the learners are motivating.
- Comments in written assignments are instructional, written in a positive and friendly manner. They are meant to facilitate learning, assess students and assign marks or grades to their work.
- Dialogue between the student and tutor is an essential part of distance education materials.

Gagne's general teaching model: Gagne's theory can basically be viewed in terms of hierarchical learning or instructional sequencing. This theory has found some application in distance education materials.

There is a logical order of presenting materials. Writers should start with simple concepts and move on to a more complex one. This theory also states that if one body of knowledge is a prerequisite for another, it is taught first.

Holmberg's theory of didactic conversation: This theory implies that distance education materials should be structured in such a way that they resemble a guided conversation. Some of the ideas of this theory are:

- there are two kinds of two-way communication; one is real communication which results from the submission of assign-

ments and the comments tutors make on them. The other is communication built into the text (this is fully discussed in Unit 6 on active learning);

- suitable two-way communication is established through this personal relationship which can be developed through correspondence or on the telephone;
- a good learning atmosphere can be fostered through this style as messages given are easily received and remembered.

What are the similarities between Egan's, Gagne's, Holmberg's and Bruner's theories?

You have now come to the end of the second section of this unit. Do the following self-test to see how well you have understood the various philosophies of distance education. Check your answers on page 164.

Self-test 2

Using the information in this unit match each of the following statements with the philosopher who advocates it by writing the letter of the statement beside the name of the philosopher.

a. In-text questions facilitate learning. Gagne ____

b. Advance organizers bridge the gap between what has been learnt and what needs to be learnt. Bruner ____

c. Information should be presented in small doses. Skinner ____

d. Writers should start with simple concepts and move on to more complex ones. Rogers ____

e. Writers should build a two-way communication between learners and teachers. Ausubel ____

f. Learning objectives should be formulated in measurable terms. Egan ____

g. When teaching new concepts, use a problem-solving approach. Holmberg ____

h. Students are free to select the courses they want to learn. Rothkopf ____

Did you do well? Go on to the next section if you did. If not, re-read this section.

Support Services for Distance Education

Distance education students have more need for support than those in a formal classroom setting. Therefore most distance education institutions provide

a strong administrative infrastructure, as well as tutoring and counselling services.

Administration: Distance education institutions must have an administrative section which deals with registering students, distributing the materials and keeping proper records. These records include:

- personal information about students;
- a list of study guides, books, and correspondence sent to students;
- the number of written assignments sent and received back from students;
- marks or grades of students;
- students' accounts;
- part-time tutors' personal data;
- allocation of students to tutors;
- record of scripts collected and returned by part-time tutors;
- record of claims presented by part-time tutors;
- an inventory of printed materials in the stores.

Tutoring at a distance: In most distance education institutions part-time tutors are engaged in marking and assigning grades to students' written work or in conducting face-to-face sessions. In some cases they are hired to help students understand course materials through discussions, supervising practicals and project work. Those tutors who are engaged in marking students' assignments should aim at making comments that:

- guide students towards better performance;
- help students to get the right answers;
- suggest fresh ideas, new examples, and different opinions, which may not have occurred to the student;
- explain the mark or grade awarded to the assignment.

Counselling: Students need information about the course they are studying as well as encouragement. They also need to have access to personal advice both before and during their studies.

Distance education students are usually on their own most of the time. They encounter problems and live with all sorts of anxieties. Distance education institutions therefore need qualified personnel to counsel these students.

Counselling is usually provided by correspondence and in some cases over the telephone and through occasional face-to-face sessions. Proper advice must be based on a knowledge of the students and on their expectations.

Congratulations! You have completed the first unit. Complete the following checklist about this unit.

Checklist

Put a tick against each of the following tasks that you can perform.

1. Give a definition of the term 'distance education'. ☐
2. Differentiate between distance education and the more traditional forms of education. ☐
3. List four other terms that are sometimes used instead of distance education. ☐
4. Explain why distance education is so popular. ☐
5. Name the countries that established some of the earliest distance education programmes. ☐
6. Name the distance education association that is responsible for your region. ☐
7. Describe at least six philosophies of distance education. ☐
8. Explain the need for support services in distance education and say which are the most commonly offered. ☐

Assignment

Write a paragraph describing the counselling services your institution offers.

UNIT 2 Distance Education Systems and Sub-systems

This unit discusses:

- what a system is;
- two well-known distance education systems;
- the special needs of distance education systems in the Third World;
- course planning;
- unit and lesson planning.

This unit is divided into two sections. The first section gives an overview of systems and sub-systems in distance education. The second section provides information on how programmes, courses and units are planned, bearing in mind the system in which they are operating.

Systems in Distance Education

A system is an orderly combination or arrangement, of parts or elements into a whole, according to some 'rational principle'.

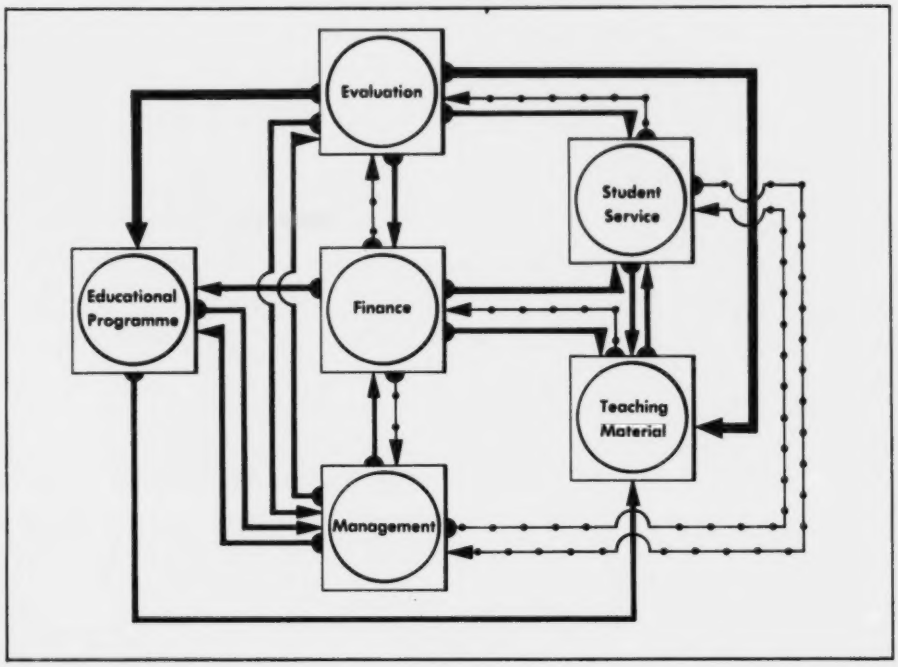
For social and educational systems too often, the rational principle is provided by the need to plan and implement social action. For instance, the need to supply 'instruction at a distance' to a particular group of learners provides the rational principle for a distance education system. Such systems are developed by those who need them to serve their particular purposes. It is reasonable to expect therefore, that systems of distance education will differ from one social context to another.

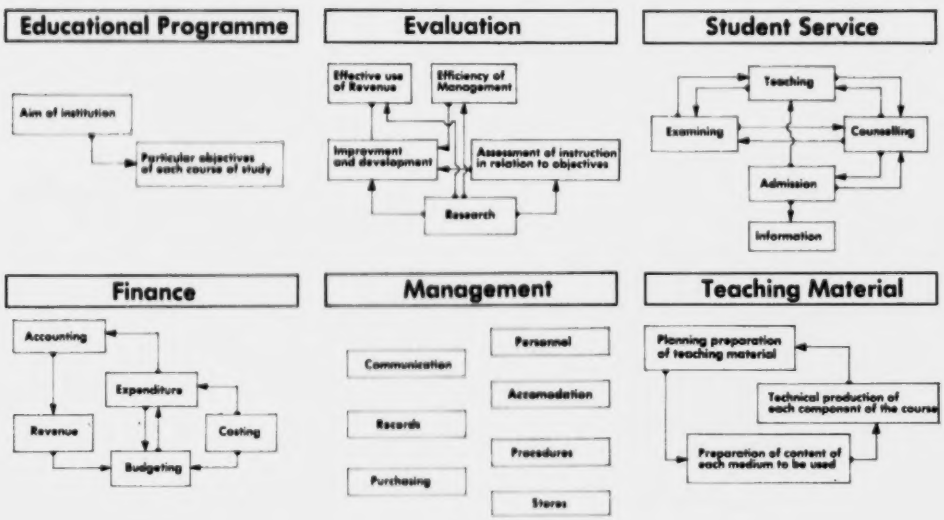
Systems of distance education will, of course, differ, but this is not to suggest that all systems will have the same merit. Some systems will be better than others because they will have been built upon more rational principles, will have more thoroughly tested conceptualizations of the processes they seek to accommodate, and because they respond better both to technical needs and social realities. As we design distance education systems we should learn from systems that have worked well elsewhere. We may then adapt them to our particular needs.

Some systems of distance education worth considering: Two systems of distance education are worth considering. One was developed by Renée Erdos (1975). She talks of six sub-systems of distance education in an institutional structure.

Distance Education -System and Sub-systems

A diagram of the system of distance education
with its six interdependent sub-systems by Renée Erdos.





Here is a brief summary of each of the six sub-systems:

- Educational programme: This establishes the aims of the institution and defines the particular objectives of each course of study.
- Teaching materials: This sub-system develops and prepares teaching materials, the content of each medium to be used, and undertakes the technical production of each component of the course.
- Management: This sub-system is responsible for accommodation, personnel, records, purchasing, stores, communication and procedures.
- Finance: This sub-system is responsible for budgeting, costing and accounting of revenues and expenditures.
- Student services: This deals with disseminating information, admissions, teaching, counselling and examining.
- Evaluation: This deals with checking the efficiency of management, the effective use of revenues, assessment of instruction in relation to objectives, improvement and development, and research.

Renée Erdos says this about the system:

> To fulfil the aim and objectives of the planned educational programme teaching material must be prepared for one or more media of communication – either printed matter, radio, television, tape recorder, or a combination of two or more media. The prepared teaching material must be distributed to those who want it and their reaction channelled back to educators. Only by the reaction of students can the instruction be assessed in relation to its objectives. These sub-systems of planning the educational programme, the preparation of its teaching material, service to students, and evaluation, all depend upon financial resources, and on the administrative organization and routines of management. Thus every one of the six sub-systems feeds into, and is dependent upon each of the others in a tightly interlocked relationship, so that the efficient functioning of the whole system depends on the efficient functioning of each activity within each sub-system.

Holmberg (1982) offers what he describes as a more instrumental system of distance education. In terms of course design he suggests ten process-components of his system to include:

- the development of a rationale of distance education;
- establishing goals and objectives of study;
- selection of target groups;
- choice of content and structure;
- developing mechanisms for organization and administration;
- choice of methods and media used in the presentation of study matter;

- selecting methods and media of two-way communication in distance study;
- course development;
- evaluation;
- revision.

Holmberg has this to say about the system:

> This system makes use of educational technology and aims at optimising education. It is based throughout on pre-planned activities and pre-produced courses which can be continuously evaluated and improved.

From the two systems described here, identify which sub-systems are found in your institution.

Special needs of distance education systems in the Third World

In the Third World, distance education systems must include components that can take care of the following two additional functions:

- the politics of credits and credentials;
- institutional networking to obtain instructional support from outside institutions.

Third World countries are economies of scarcities. Typically, unemployment figures are high, and the phenomenon of 'educated unemployment' is also beginning to appear. Distance education opens up the educational system, but at the same time, it makes the competition for jobs more acute. Those with vested interests, therefore, like to characterize graduates of the distance educated system as inferior to those who attended school or college full-time. Distance education systems in the Third World should, therefore, make sure that graduates from their system are considered equal to, if not better than, those from the regular education system.

Within the non-formal education sector where no credentials are involved, learners should be advised what they could do with what they have learned through distance education courses.

Which examinations does your institution prepare candidates for? Are the certificates the candidates get recognized by government?

Within the Third World context, distance education systems cannot be self-contained and self-sufficient. These systems must collaborate and co-ordinate with other systems of education and extension established from public or private resources. In other words they must establish a network. These may be:

- colleges
- teacher advisory centres
- secondary schools
- farmer training centres
- libraries
- community centres
- extra-mural centres.

Finally, we should remember that distance education systems need to be continuously evaluated to test their performance. We should improve them to make them serve our needs better.

This is the end of the first section of this unit. Do the following self-test to see how much you remember. Then check your answers on page 164.

Self-test 3

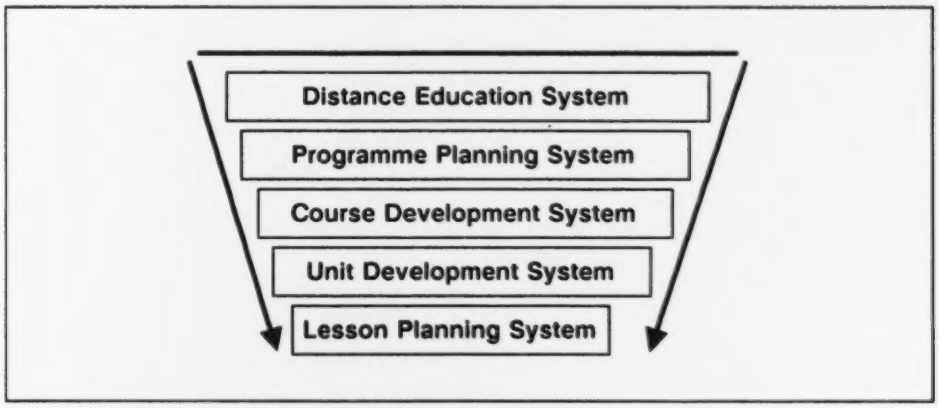
Fill in the blank with a word that makes the statement correct.

1. A system is a combination of parts into a whole according to some rational _____ .
2. Systems of distance education _____ from one context to another.
3. Renée Erdos developed a system with _____ sub-systems.
4. Holmberg describes his system as being more _____ .
5. Graduates in distance education systems must be assured that they are not considered _____ to those in the regular education system.
6. Institutional _____ is encouraged in distance education to obtain support from outside institutions.

If you got all the answers correct you are ready to go on to the next section.

From programme to course to unit to lesson

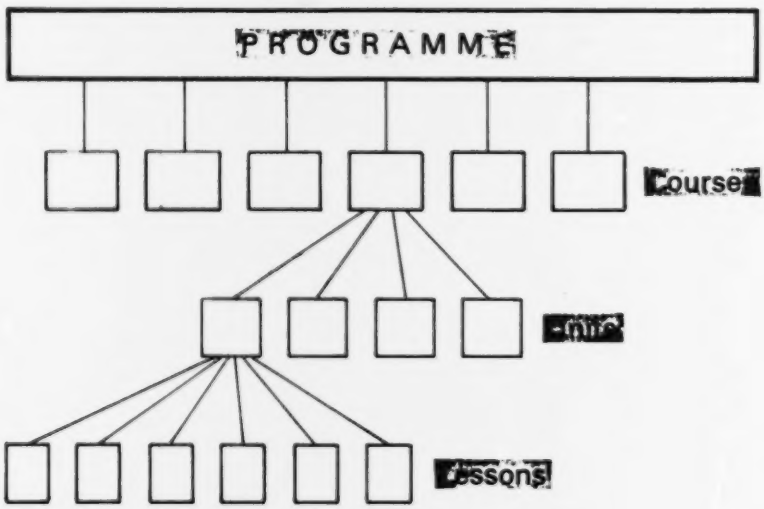
In the process of curriculum development for distance education programmes the planner and writer work within a number of different systems. Understanding the overall structure of distance education will enable you to know where you are in the system and how your work could be affected by other systems. It is, therefore, important to be aware of the fact that a rational decision made at certain levels of either programme or course development is often dependent on other decisions already made. As a course writer you are working within the following systems:



Having already described education systems we will now focus on the essential elements of:

- programme planning,
- course development,
- unit development, and
- lesson planning,

within the larger context of the various education systems. In other words, we shall examine what is involved in the:



Programme Planning

Any programme is the broad outline of study for a specific group of learners. Usually programme planning is done by a team. This team may include:

- the principal or director;
- the chief finance officer;

- members of the distance education department;
- subject specialists;
- the student counsellor.

These planners then need to consider all of the following aspects of the project:

- identify the educational need for the programme and decide how it can be met;
- identify the learner characteristics and needs;
- define the general and specific objectives of the programme;
- make a list of the resources available and the limits imposed by such constraints as finance, policy, number of staff, audio-visuals available, mode of delivery, postal services and time;
- identify the alternative media or methods that may possibly be used in the programme including:

print	face-to-face teaching
radio	television
cassette tapes	telephone

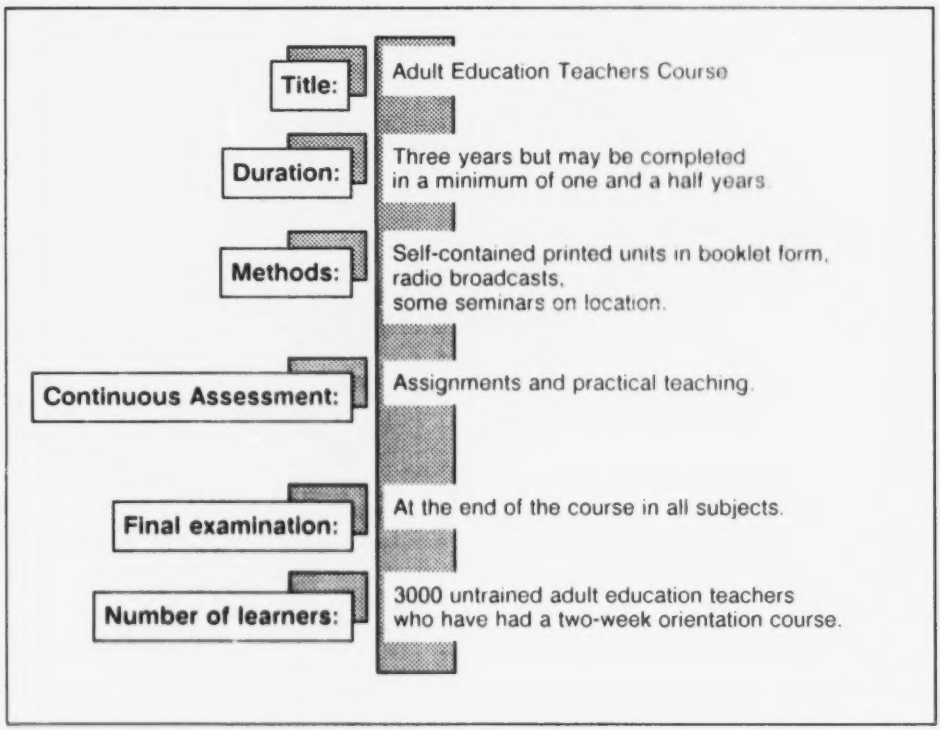
What similar steps in programme planning is your institution following?

Next, plans for the programme will need to be drawn up. These will specify:

- what form the materials will take;
- which media will be used;
- how they relate to each other;
- how long the programme will take;
- the number of learners that will be involved;
- what administrative arrangements will be needed;
- what information for feedback and evaluation will be collected;
- how it will be collected;
- who will carry out all the tasks involved;
- the budget for the programme.

You, as a writer, will be mainly concerned with the first three parts in this plan. However, you will also need to be aware of the other parts.

Here is an example of some of the programme decisions that were reached when the *Adult Education Teachers Course* was planned.


Title:
Adult Education Teachers Course
Duration:
Three years but may be completed in a minimum of one and a half years
Methods:
Self-contained printed units in booklet form, radio broadcasts, some seminars on location.
Continuous Assessment:
Assignments and practical teaching.
Final examination:
At the end of the course in all subjects.
Number of learners:
3000 untrained adult education teachers who have had a two-week orientation course.

Examples of other programmes include the:

In-service Programme for Primary School Teachers

Correspondence Courses for the Employees of Co-operatives

AMREF Correspondence Courses for Health Workers

Preparatory Programme for the Kenya Certificate of Education.

Course Planning

Once we have found out what we need to know about the learners, the programme objectives, the general structure of the programme and the types of learning we want to encourage, we can then decide on what sort of course we want to develop. Course planning may again be done as a team or it can be done by the individual writer.

How is course planning influenced by programme planning?

While planning the course structure, it is also important to keep in mind whether the materials you are planning are for the direct use of the distance education learner or whether those learners will then teach the subject content of the course to their own students. For example, a course on *Methods*

of Teaching is for the direct use of teachers who are studying at a distance. They will apply these methods in the classroom. A course on *Common Errors in English*, however, will not only help teachers to improve their own command of the language but they will also have to teach the content to their pupils so these, in turn, do not make these mistakes. This means that sometimes you are writing only for the learner,

but at other times you are giving the learners information to pass on to their own students.

Each of these situations requires a different course structure and form of addressing the distance learner.

Identify a course your institution has planned in which the learners will teach some of the material to their students. How is this course different from one in which the material is for the learners only?

During the programme planning stage a number of courses may have been identified. The in-service programme just mentioned (course), for example, has fourteen courses (subjects), as follows:

- English
- Science
- Mathematics
- Kiswahili
- Professional Studies
- Business Education
- Music
- Physical Education
- Arts and Crafts
- Geography, History and Civics

- Home Science
- Agriculture
- Population Studies
- Christian Religious Education or Islamic Religious Education

It is now in the course planning stage that each of these subjects is designed and outlined in detail. Different subjects often need different methods and approaches in order to be taught effectively. When planning a course all of the following aspects need to be specified:

- the course objectives must be identified. These will be narrower and more specific than the programme objectives;
- the course content will need to be outlined so that broad subject areas are defined. Usually these are based on a syllabus.

Here is an example of a course outline for a course on effective evaluation.

Unit 1: **Purposes and Reasons for Evaluation**

1. Definition of evaluation

2. Reasons for evaluation

3. a) To know how successfully the objectives have been met.
   b) To see how well resources have been utilized.
   c) To check if learners have mastered their subject matter.
   d) To see if learners are able to apply their newly acquired skills in their day-to-day activities.
   e) To know why the learners are failing or succeeding.
   f) To help the adult educator identify what changes need to be planned for.

Unit 2: **Evaluators, who are they?**

The following categories of persons may be involved in the evaluation process as individuals or as groups.

1. Adult educators
2. Learners
3. Supervisors
4. The community:
   a) extension officers
   b) church leaders
   c) family members
   d) group leaders.

Unit 3: Evaluation Methods (Instruments)

1. Observation Schedules
   a) non-verbal behaviour
   b) verbal behaviour
   c) skill performance

2. Interview
   a) structured
   b) non structured

3. Group discussions
   a) guided
   b) casual

4. Study of records and reports

5. Expert judgement

6. Group or individual assignments or projects

7. Tests
   a) diagnostic tests
   b) achievement tests
   c) aptitude tests
   d) attitude inventories

8. Questionnaire
   a) open-ended
   b) structured

Unit 4: When to Evaluate

1. At the planning stage
   a) Entry behaviour
      - Cognitive skills (intellectual skills)
      - Affective behaviour (attitudes)
      - Psychomotor skills (body movement)
      - Physiological conditions (physical conditions)
      - Socio-economic background

   b) Needs assessment
      - learner expectations
      - learner hopes
      - learner worries

2. At the trial stage

3. At the implementation stage

4. During the course (Formative Evaluation)

5. At the end of the course

6. At the follow-up stage (Summative Evaluation)

7. When difficulties are encountered and dissatisfaction noted.

Unit 5: **Some Selected Evaluation Models**

1. Context-Implementation-Process-Output.

2. Model for evaluating instructional effectiveness.

3. Model for evaluating facilitator effectiveness.

Here is an example of some of the decisions reached during the planning of the *Christian Religious Education Course* for the Inservice Teachers Training Course.

Title: **Christian Religious Education.**

Target-Group: Primary school teachers with at least three years teaching experience but no teacher training.

Duration: One year: each unit to be completed in two months.

Methods

1. Six self-contained 30-40 page units but a Good News Bible will be needed to look up Bible references.

2. Radio broadcasts to teach specifically identified topics not covered in the printed units.

3. Casette tape recordings of the radio broadcasts to be made available in teacher training colleges during residential sessions for those who could not listen to the radio broadcasts and those who would like to review the broadcasts.

4. Residential face-to-face sessions during the holidays of periods from 7 to 14 days.

Continuous Assessment: Assignments and practice teaching.

Final Examination _____

Now try this self-test to review the first part of section two.

Self-test 4

Answer the following questions as briefly as possible.

1. Name any 4 members of a programme planning team.
2. List 4 possible media or methods you might consider using in a distance education programme.
3. What constraints should you be aware of when planning a distance education programme?
4. State any 6 decisions you need to make at the programme planning stage.
5. What are the two main aspects of course planning?

Check your answers on pages 164 and 165. How did you do? Are you ready to go on to the next part of this section? We hope so.

Unit Planning

Once a course has been planned, it should then be further sub-divided into units. The purpose of this division is that the students should be offered a suitable quantity of learning matter at a time so they can regard the study of each portion of the course as a separate task. With each unit they complete they can see the results of their work.

Units can be compiled by topic, with a different one covered in each, or by the time it takes to study each unit. Sometimes a combination of both methods is used. Moreover, units vary in size from as few as eight to as many as hundred and fifty pages.

No matter what the length of a unit, however, it must be self-contained. This means it includes all the necessary content and does not rely on or refer to other texts. It also has a clear opening, main text and ending. Each unit should also:

- orientate the learners;
- introduce them to the content;
- explain the topics covered;
- provide activities for the learners.

Units are usually planned and written by the individual writer. When planning the unit the writer must consider:

- the unit title and number;
- the unit introduction which includes
  - a statement of the objectives,
  - an introduction and orientation to the subject matter,
  - information on how to study the unit, what the learners need to revise, and what equipment they need.

- the body of the unit which should have
  - a clear division into sections,
  - a sequence of new material and exercises.
- the end of the unit which should have
  - a check on what the students should have done,
  - a summary,
  - a learning activity to assess whether the material has been learned.

Here is an example of a unit outline for the Inservice Teacher Training Course.

Course title:	Professional Studies
Unit number:	5
Unit title:	The Curriculum
Unit outline:	Introduction Objectives What is a curriculum? What is curriculum development? Strategies for developing a new curriculum Self-test I The syllabus Schemes of work Lesson plans Lesson notes Self-test II Teaching methods Communication Questioning Organizational skills Learning resources Self-test III Written assignment Answers to self-tests

In addition to these aspects of the unit, the writer must also plan:

- the illustrations to be included;
- the materials and media to be used;
- a marking scheme;
- a detailed format, layout and style as set out in the guidelines of the course plan.

Once the unit has been carefully planned, a draft text may be written.

In what ways is unit planning different from course planning?

Lesson Planning

In some distance education programmes a unit is called a 'lesson'. This simply means that the sub-division of a course instead of being called a unit is called a lesson. Planning of this lesson is, of course, identical to planning a unit.

Sometimes when a unit is quite large (50 to 150 pages) it is further divided into sections, lessons or lectures. These sub-divisions also need careful planning. The writer must try to have each lesson:

- as a self-contained topic;
- linked to other lessons;
- start with objectives and an introduction;
- intersperse new materials with activities;
- conclude with an exercise or assignment.

You have now come to the end of this section. Here is another self-test for you to do. You should review the whole of this section to help you answer the questions.

Self-test 5

For each of the following statements, write P if it is for programme planning, C if it is for course planning or U if it is for unit planning.

1. Define the general objectives of the project. ____
2. Outline the content in broad terms for each subject. ____
3. Develop a format and layout. ____
4. Identify the alternative methods that may possibly be used. ____
5. Plan the budget. ____
6. State the specific objectives of each subject. ____
7. Decide on illustrations. ____

8. Identify the learner characteristics and needs. ____
9. Decide the duration of the course. ____
10. Make a marking scheme. ____

Check your answers. Did you do well? If you are still confused about the difference between a system, programme, course, unit and lesson, study this unit again.

Checklist

A. Put a tick against each of the following tasks that you can perform.

1. Define what a system is. ☐
2. Describe the six sub-systems in Erdos' model. ☐
3. Name the ten components in Holmberg's model. ☐
4. Explain what institutional networking is. ☐
5. Identify the 3 types of planning involved in a distance education project. ☐
6. State what programme planners need to consider. ☐
7. State what course planners need to consider. ☐
8. Explain in detail what is involved in planning a unit. ☐

B. Use this checklist to see if you have everything you need in a unit.

1. Unit title and number ☐
2. A statement of the objectives ☐
3. An introduction and orientation to the subject matter ☐
4. Information on how to study the unit ☐
5. A statement on how to study the unit ☐
6. A list of what equipment the learners need ☐
7. A unit with clear sections ☐
8. A text with a sequence of new information and activities ☐
9. A summary or check on what the learners should have done ☐
10. An assignment ☐
11. Answers to self-tests ☐

Have a cup of tea and take a break. You'll then be ready to do the assignment.

Assignment

1. Review the programme and course decisions your institution has made that affect the writing of your unit.
2. Plan and develop an outline for the content of your unit and share it with your group or your tutor.

UNIT 3 Using What We Know about Learner Characteristics and Resources

This unit is about:

- why you need information about distance learners;
- the bio-data you need about distance learners;
- where you can get information about the learners;
- how to make use of information about distance learners.

In the area of 'instructional systems technology' of which distance education is but one special case, it is now part of the conventional wisdom that instructional design should be based upon three things: the task, the learner and the context in which learning will take place and be used. Instructional systems technologists, therefore, suggest that any instructional design exercise should include the three important processes of:

- task analysis;
- learner analysis;
- analysis of the environment.

In any educational programme, but more so in distance education programmes, it is therefore essential to determine learner characteristics and needs.

Why do you think this is essential?

This is so because distance learners are separated from their teachers in time and space. The interaction between tutor and learner is not immediate, since communication through the post or radio takes time. Face-to-face contact is only occasional. Moreover, the use of telephone to help overcome this problem is not a widely used means of communication as yet.

It is therefore through the identification of learner characteristics that programme organizers can establish the learning needs of the target group of any given programme as well as the content and methodology to be used.

It is an accepted fact that adult learners have certain psycho-social needs, which may not be met academically, but are nevertheless important to consider when planning a learning experience. Some of these are:

- need for kindness and security;
- need for recognition;
- need for new experiences;
- need for exercising leadership, decision-making and responsibility.

Search for Typical Learners in Typical Settings

Learning is a most individualized, most private act. It would be ideal to develop individual prescriptions for each learner. But the ideal is impossible to achieve. Therefore, we must seek to develop profiles of typical learners in typical settings. Obviously, we will have to keep the numbers of *types* of learners and settings to the absolute minimum. Otherwise, we will be in trouble. The same book could perhaps handle two typical sets of learners in two typical settings, through branching or choice of examples, but no more.

What Bio-data Do You Need about Distance Learners?

Distance learners have varied backgrounds and needs. They come from diversified socio-economic groups. They may be of different ages and most likely have different family commitments. Basically, however, we are interested in two sets of characteristics, psychological and social. Of course, the two interact with each other in various ways. Distance educators may not always have the time or resources to collect all this information, but this should at least sensitize them about what will be useful to learn about the learners.

The following are characteristics that programme planners need information on.

Personal Background

Soliciting personal information about the learners will enable course planners to know the needs of each individual in order to plan a suitable learning experience for them. Personal data includes the following:

- sex
- age
- marital status
- family size
- social status
- financial resources
- health status
- personal commitments in the extended family and community
- occupation including duty hours and work patterns
- personal motivation.

Which of this information do you have about your learners?

Educational Background and Study Resources

When planning a distance study package it is important to know the educational background of the learners so that the materials can be prepared at the right level. It is also important to know the previous educational successes and failures of the learners. All learners need encouragement but those who lack confidence due to previous failures need it even more.

It should be pointed out here though that most distance learners are highly motivated for the following reasons:

- most learners are employed and therefore find it convenient to study during their free time;
- distance education offers learners a chance to acquire academic or professional qualifications often resulting in job promotion;
- many learners derive personal satisfaction from acquiring new knowledge and skills.

Even if distance learners are highly motivated, they have certain needs. What are these needs?

In order to facilitate studies, there are certain items and facilities that distance learners need. These include:

- a quiet place to study;
- a nearby transport and postal service;
- access to a library;
- the course units and recommended texts for additional information;
- reference books such as a dictionary and atlas;
- stationery such as paper, pens, pencils and envelopes.

Depending on the course the learners are studying they may also need:

- a cassette player;
- a radio;
- a mathematics set;
- a science kit;
- art materials;
- home science materials.

Another important study resource that should be developed is a Student Handbook. Such a handbook would contain the following information:

- entry requirements;
- what the course is all about;
- duration of the course;

- how the course is organized;
- approximate study time learners need to devote to each subject per week;
- how to plan study time and arrange a good learning environment;
- support services available and how they will be provided;
- financial requirements;
- assessment methods;
- academic or professional qualifications awarded at the end of the course.

Which of these facilities and equipment do your learners have?

Where Can You Get Information about the Learners?

Knowing the kind of information you need, here are some suggestions as to where you can get this information:

- admission records: A lot of bio-data is on these forms about age, sex, marital status, and educational level.
- data: Additional information can be found in development plans, reports and census.
- interviews and discussions: These can be done on an informal basis when learners visit the institution or when staff are out on field visits.
- continuous assessment: This is done on a regular basis during the course. Moreover, systematic use should be made of tutors' remarks on student assignments.
- course evaluation: From time to time the course and its materials must be evaluated. Questionnaires may be used for this purpose.

What sources have you used to collect information to develop profiles of your learners?

Before embarking on course development, it is essential to know who you are writing for, hence the importance of identifying learner characteristics. Therefore, you must continue to learn more and more about your learners.

Self-test 6

Complete the following lists about learner characteristics.

1. List eight personal characteristics you should know about your learners.

a.	sex	f.	
b.	age	g.	
c.		h.	
d.		i.	
e.		j.	

2. List four facilities or items distance learners need for their studies.

a. access to a library
b.
c.
d.
e.

3. List eight items of information that should be included in a Student Handbook.

a. entry requirements
b.
c.
d.
e.
f.
g.
h.
i.

Check your answers on pages 165 and 166. If you missed any of these items, read the unit again.

Now go on and do the assignment.

Assignment

Make a detailed profile of the learners for whom you are writing.

Checklist

Put a tick if you have included details about the following learner characteristics:

1. age, sex, marital status and family size ☐
2. social status and financial resources ☐
3. health status ☐
4. personal commitments ☐
5. occupation ☐
6. motivation ☐
7. educational background ☐
8. study facilities and equipment ☐
9. community facilities ☐
10. support services available ☐

We hope you are ready to do the next unit. Good luck!

UNIT 4 Writing Instructional Objectives

This unit will tell you how to:

- distinguish between aim and objective;
- state three reasons for specifying objectives;
- discriminate between cognitive, affective and psychomotor objectives;
- state what words should be used and what words should be avoided when writing instructional objectives;
- write instructional objectives giving the performance required, conditions under which mastery will be observed and a description of the standards to be reached;
- explain why some other educationists object to formulating objectives in measurable terms.

Writers of distance education materials are often confused about the differences between goals, aims and objectives.

In Kenya we talk about the goals of education. These are broad national aspirations incorporating political, socio-economic and cultural views of a given country. They are left to the educationists to translate them into educational programmes. An example of one of the national goals is:

> Education in Kenya must foster a sense of nationhood and promote national unity.

Aims are also general statements of intent but they are more specific than broad goals. There may be specific aims for a programme, course, subject or lesson. For example, here is one of the aims of the primary education programme:

> Primary school education should lead to an acquisition of literacy, numeracy and manipulative skills.

This aim is a very general statement of intent. We need to give it a lot of thought before we can translate it into educational activities. It is subject to different interpretations by different people in terms of content, breadth and depth. Here is an example of an aim for the primary English course:

> At the end of the course the children should have been taught the skills of speaking, reading and writing correct English.

Here is an example of a subject aim for Std. 6 English composition:

> To teach how to write a good composition.

Lastly, here is an example of a lesson aim for Std. 6 English composition:

> To teach how to write a well-structured, descriptive composition.

All the above statements are not only general but talk about the teacher. The statements are totally teacher-centred. They are not helpful to the learners.

Even, if learning is expected to take place, how are we going to assess its full impact?

What must you do then, in order to be more specific so that desired changes in learners' behaviour do take place?

Learning Objectives

Although there are a number of ways of stating learning objectives for the purposes of this handbook, a learning objective is much more precise and specific. It provides both the teacher and the learner with clear and concrete direction as to where they are going.

A clear learning objective gives both the teachers and the students direction with regard to both the subject content and the mental processes which the student is expected to develop. The following are some examples of learning objectives:

At the end of this lesson you should be able to:

- indicate the similarities and differences between formal and non-formal education;
- describe, without reference to the text, one form of Kenya's traditional education and its relevance today;
- answer seven out of ten questions correctly on adult education and national development.

Reasons for Specifying Objectives

If learning objectives are formulated in measurable terms, teaching effectiveness can easily be determined by the terminal behaviour of the learners. Moreover, learning is more meaningful and enjoyable if you know what you are learning.

Here are some of the reasons why you need to specify objectives:

- if you know what you are trying to achieve, then you will be better able to evaluate your own progress, and you will gain greater satisfaction when you have achieved your objectives;
- a task becomes manageable and removes all ambiguity and difficulties of interpretation;
- objectives make it more likely that as students proceed to learn, then performance is monitored, and at appropriate intervals, measured and summarized;
- a statement of objectives informs you of what you should be able to do on completing a learning assignment.

How to Write Clear Learning Objectives

If learning objectives are to be meaningful to both the writer and the learner, you must first think about what they are intended to measure. In fact they should measure all of the following:

- concepts to be learned;
- skills to be mastered;
- habits to be learned;
- techniques to be acquired;
- attitudes to be developed.

When preparing to write your objectives ask yourself these three questions:

- *What should the learners know?*
- *What should the learners be able to do?*
- *In what ways should the learners behave differently after studying the unit?*

Not only do you need to think about what outcomes are to be measured, but you also need to consider how to word the objectives in measurable terms. There are a number of action words or useful verbs which you will find helpful in stating objectives. They are adapted from a manual by Clayton L. Wright, Co-ordinator, Instructional Development, Grant MacEwan Community College, Edmonton, Alberta, Canada entitled 'Course Developer's Manual' (1987).

Table on Action Words

LEVELS OF LEARNING

DOMAINS	Knowledge/Comprehension		Application		Problem solving	
COGNITIVE	Arrange Cite Classify Convert Copy Define Describe Discuss Distinguish Explain Express Give example Identify Indicate Label List Locate Match Name	Order Outline Recall Recite Record Relate Reproduce Repeat Report Restate Review Rewrite Specify Summarize Tell Translate Underline	Apply Assemble Calculate Change Choose Compute Defend Demonstrate Discover Draft Dramatize Draw Employ Estimate Explain	Illustrate Infer Interpret Modify Operate Practise Predict Prepare Produce Relate Schedule Select Show Sketch Use	Analyze Appraise Argue Arrange Assemble Assess Categorize Choose Combine Compare Compose Conclude Construct Contrast Convert Create Criticize Debate Defend Devise Differentiate Discriminate Distinguish Estimate Evaluate Examine Experiment Explain Formulate	Illustrate Infer Inspect Interpret Judge Justify Manage Modify Organize Plan Predict Prepare Propose Question Rate Relate Recognize Score Select Solve Support Test Value Write
AFFECTIVE	Accept Accumulate Ask Describe Follow Give Identify	Locate Name Point to Respond to Select Sensitive to Use	Affirm Approve Assist Choose Complete Conform Describe Discuss Follow Initiate Invite Join Justify	Perform Practise Propose Select Share Study Subscribe to Work	Act Adapt Change Defend Display Influence	Integrate Mediate Organize Revise Solve Verify
PSYCHOMOTOR	Complete Demonstrate Distinguish Hear Identify Locate Manipulate Move Pick up Point to Practise	Press Pull Push See Select Set up Show Sort Specify Touch Transport	Activate Adjust Assemble Build Construct Copy Demonstrate Disassemble Disconnect Draw Duplicate Execute Load Locate	Loosen Manipulate Measure Open Operate Perform Remove Replace Rotate Select Set Slide	Adapt Combine Compose Construct Convert Create Design Devise	Fix Generate Illustrate Modify Organize Plan Repair Service

How have these words been categorized?

They have been categorized by domains and levels of learning.

The most commonly assessed domain in education is the cognitive domain which contains six levels. These include:

- knowledge: recalling previously learned material;
- comprehension: grasping the meaning of material or restating previously learned material in your own words;
- application: using knowledge in concrete situations;
- analysis: breaking down material into its meaningful parts so that the relationship among the parts can be determined;
- synthesis: combining parts to form a new whole;
- evaluation: judging the value of the material.

In many cases, it is easier to think of these levels as three broad cognitive categories: knowledge and comprehension; application; and problem solving including analysis, synthesis, and evaluation.

The affective domain is the least evaluated and yet probably the most important aspect of education.

This domain includes the following levels:

- attending to a specific phenomenon or stimulus;
- responding to the phenomenon;
- evaluating the phenomenon or indicating its worth;
- organizing the values in relation to each other;
- generalizing or integrating the values into your value system so that they may guide your life.

The psychomotor domain deals with learning physical skills and is normally associated with vocational training. However, many cognitive and affective skills have psychomotor components.

The psychomotor domain is divided into the following stages:

- acquiring knowledge of what should be done;
- executing the responses in a step-by-step manner;
- transferring control from eyes to other senses;
- automatizing the skill;
- generalizing the skill to a continually greater range of application situations.

There are some action words which you should not use, unless you say how you intend the learners to demonstrate what they have learned.

Such words are:

know	learn
appreciate	become aware
understand	realize
teach	comprehend

Where Do You Get Ideas for Formulating Learning Objectives?

By now you should realize that clear learning objectives do not just happen. They require serious thought. There are a number of sources which you can use to help you formulate the objectives for your unit. These include:

- programme and course syllabuses;
- subject content;
- information about your learners;
- existing objectives.

What other sources can you identify?

When you have completed writing your unit, you need to go back and check that you have covered all the objectives. You may need to revise some and omit others.

You have now come to the end of this unit. Please do the self-test that follows and check your answers on page 166.

Self-test 7

A. Tick all the statements which are clear learning objectives.

1. To teach the history of Kenya
2. By the end of the unit you should know what distance education is
3. You should be able to list the qualities of a clear learning objective
4. Learners should be able to calculate the sum of any three digit numbers
5. Learners should appreciate traditional music

6. Using an atlas you should be able to find the distance between Nyeri and Mombasa
7. After completing the unit learners should be able to debate the importance of family planning in national development
8. You should be able to draw a two-dimensional picture

B. Put the following action verbs under their correct headings according to the domain they belong to.

Affective	Psychomotor	Cognitive

list, classify, pick up, approve, assemble, design, influence, touch, compute, accept, follow, order, rewrite, push, share

We hope you did not find this too difficult. If you did, look back at the Table on Action Words. Check your answers on page 166. Then go on.

Assignment

Write the objectives for your unit and share them with your group.

Checklist

After writing your objectives, check to ensure that they are appropriate for your unit.

1. Does each objective address a previously assessed need? ☐
2. Does each objective specify the expected performance? ☐
3. Does each objective address a specific competency? ☐
4. Can the achievement of the objectives be measured? ☐
5. Are the objectives stated concisely? ☐
6. Are appropriate action words used in each objective? ☐
7. Are these action words directly related to a specific domain of learning and level of learning? ☐
8. Are the objectives written in a style that is appropriate for the target audience? ☐
9. Will the objectives be understood by the target audience? ☐
10. Where necessary, are conditions specified under which mastery should be observed? ☐

UNIT 5 Writing to be Read and Understood

This unit will help you to:

- explain the two different types of writing;
- differentiate between social and creative writing;
- explain the three approaches to structuring the content of a unit;
- write a unit that has cohesion, unity and integrity of concept;
- balance the amount of old and new information in a unit;
- choose an appropriate style;
- write using suitable language for your learners.

There is something called the talent for writing. Talent is important. But writing skills are equally important. These skills can be acquired by training. Most people can improve their writing skills by appropriate training. As a writer of educational materials you must learn to write by objectives, to write for the real people, living in real places, having real information needs.

Writing in General and Writing for Distance Education

There is a difference between writing in general and writing for distance education programmes. When writing in general we should distinguish between creative and social writing.

Creative writing is expressive. It is imaginative reconstruction of reality in songs and stories. Social writing is expository writing. It is to teach people new information, attitudes and skills needed to participate in the social, political and economic life of the nation. Expository writing can be 'creative' as well but its social mission is paramount.

Writing for distance education is essentially didactic writing, but with a strong obligation to communicate with readers, and with a clear social mission. Since the distance learner is often alone, the obligation to communicate with the learner is very important.

There are two different types of writing for distance education. One type of writing involves developing 'study guides' for already published textbooks or other reading materials. These study guides are meant to help the reader of a standard textbook to master the material presented in the textbook. Independently of the textbook, these study guides are not of much instructional use. The other type of writing for distance education involves developing 'self-contained' materials.

How can you do this?

You already know that distance education has been described as didactic communication. To give distance education materials the character of a 'didactic conversation', the following two features should be built into them:

- Distance education materials should be structured as 'frameless programmed instruction'.
- Distance education materials should be liberally punctuated with a variety of motivational and instructional devices.

Frameless programmed instruction

Frameless programmed instruction means that the material is written in a didactic manner, the concepts and arguments are clear and the structure of the unit is explained to the learner. The material is presented in small steps and there are opportunities to elicit response and to provide reinforcements.

Motivational and instructional devices

Distance education texts should be made truly interactive. This requires more than reinforcement provided through knowledge of results in a textbook. We need a variety of motivational and instructional devices. These are further discussed in the next unit.

Structuring the Content of the Unit

As a writer of educational materials you should be familiar with the subject matter and content. Your difficulty might be how to structure it. Your topic outline is the basis for doing this. However, you should note that there are other ways of structuring the content:

The logical approach

In writing distance education materials you can use either the deductive or inductive method. When using the deductive method you write from the general to the specific or from the whole to its parts. You go from a principle to its applications or from the abstract to the concrete. History units can be written in this way.

For your learners the inductive approach might be easier to understand. Using their concrete experiences you can write about the more specific first giving real examples. You therefore need to write about what is familiar and then the underlying principles. Using observations you can then draw con-

clusions. This method lends itself to the writing of science materials.

The problem-centred approach

When using this approach, you start with a concrete problem. You then help your learners to analyse it and come to a diagnosis. You assist your learners to solve the problem. Mathematics and science materials are often written this way.

The performance-related approach

This is a step-by-step approach in which the learners have to carry out a specific task or acquire a certain skill. It is accomplished by dividing the whole task into sub-tasks and giving clear instructions.

Which approach is most suitable for the unit you are writing?

After having chosen the appropriate approach to present your content you have to structure it. You have already stated your objectives earlier and put general and specific objectives in proper sequence. This sequencing of objectives will help you now to structure the content. The sequence of your specific objectives may become the sequence in presenting the content. When organizing the content make it coherent and give it unity and integrity.

Cohesion of content

Students learn best when information is presented in small amounts. Therefore, you need to divide the content accordingly. You can do this by breaking the whole unit into sections or parts. Within each section the content is further sub-divided into paragraphs so that various bits of information are put together where they belong.

In order to give the unit cohesion, the following points should be observed:

- sections should be self-contained;
- paragraphs should present only one or two related ideas;
- use sub-headings so that learners see that you are presenting a new idea;
- build bridges or links between sections or paragraphs;
- recapitulate main ideas at the end of a section.

Unity and integrity of content

To give your whole argument unity and integrity you should:

- include every main point that is required by the topic;

- leave out any point that suggests a different topic;
- divide each main point into sub-points that belong to it;
- make sure that all the main points are about equal in importance;
- make sure that all sub-points are about equal in importance;
- ensure that all points and sub-points are in the right order;
- make sure that, in the process of outlining the unit, you do not loose track of the argument you are making;
- anticipate questions the learners may have and answer them.

The process of developing an argument or outlining a message in print is not necessarily linear. You do not need to follow your own outline rigidly. If in the process of writing changes become necessary, feel free to make changes even if you have to revise your objectives.

Managing the Concept Load

As an educator you might have experienced if you teach too much information at once, the students will not learn it well. Managing the concept load therefore is one way to assist your learners to learn.

The following are three ways to manage the concept load.

Density of information

You already know that distance education is a didactic conversation with the learners. It is a conversation that should make possible immediate comprehension. This is possible if you go from the known to the unknown. There is evidence to suggest that 80% of what you are going to present in a unit must already be known and only 20% can be unknown. Therefore you should introduce new concepts and words carefully. Explain these concepts and new words especially if you deal with technical terminology. You should perhaps add a glossary of technical terms at the end of a unit or a course. You also need to make all concepts concrete by giving specific examples.

Succinctness and relevance of information

It is important to distinguish between what must be learned and what is good or nice to learn. Avoid rambling and getting off the point. Remember to make your text relevant by providing examples from the learners' experiences.

Additional stimulation

Didactic conversation means interaction between the learners and yourself and between the learners and the text. Therefore make your text stimulating and thought-provoking by adding questions and activities to think about and do.

When you write to be read and understood there are a lot of ideas you have to remember.

Do this self-test to see how well you understand what has been discussed so far.

Self-test 8

Choose the best answer.

1. All of the following methods are used in distance education except

   A self-contained study units.
   B study guides for already published textbooks.
   C occasional face-to-face sessions.
   D full-time classroom teaching.

2. Social writing is

   A expository.
   B creative.
   C imaginative.
   D expressive.

3. The best definition of 'didactic conversation' would be a

   A conversation between two people.
   B dictation.
   C two-way communication that teaches.
   D debate.

4. The inductive method approaches teaching from the

   A problem to the solution.
   B general to the specific.
   C known to unknown.
   D specific to the general.

5. Which of the following is NOT true about a unit that has cohesion?

   A It is well-organized and self-contained.
   B It has bridges or links between sections.
   C It refers learners to basic information in other texts.
   D Sections are arranged in logical order.

6. Research has proven that a unit should contain only

   A 20% new information.
   B 50% new information.
   C 60% new information.
   D 80% new information.

7. You can make new concepts concrete by

   A putting them in a glossary at the end of the unit.
   B giving specific examples from the learners' experience.
   C discussing the idea in detail.
   D telling the learner to look it up in a reference book.

8. The best definition of a succinct unit is

   A a unit that is relevant.
   B one that is full of examples.
   C a unit that is stimulating.
   D one that is to the point.

Now check your answers on page 166. How did you do? Take a short break before going on to complete this unit.

How to Choose an Appropriate Style

Nobody can tell you what style is best. You have probably already developed a writing style of your own. But when writing distance education materials you must bear in mind that you are taking the place of a teacher and that you should incorporate into your text all the stylistic features of good face-to-face teaching. Here are two suggestions.

Use a conversational style

Speak to your learners through your writing. Be friendly and encouraging. Engage them in a dialogue with you. Involve them in arguments. Ask them to consider questions raised, to criticize and supplement what is being provided by the course. Use a personal style. Address the learners as 'you' and refer to yourself as 'I'. Try to develop personal relations between yourself and the learners. Let them search for further information, apply their knowledge and skills and encourage them to raise questions. By doing so you can bring about real two-way communication which is essential in distance education.

Match your style to the subject

The style you use should fit the subject you are writing on. A unit on philosophy of education will be written quite differently from a unit on book-keeping. Different approaches are necessary. Since book-keeping is performance-related, you may wish to use the 'step-by-step approach'. Lists, tables and illustrations must be included. On the other hand when writing on the philosophy of education you will need to use a language of discourse which involves the reader in a process of thinking and reflection.

Using the Appropriate Language

Your learners don't have immediate access to you as a teacher. This means your language must be clear to them and appropriate to their reading ability. What you write must be written as simply as possible. For example, adults who left school a long time ago need a much simpler language than university students. This has implications for your writing.

In order to make your language clear and easily understood, you should consider all of the following:

- paragraphs should contain only one main idea, or, perhaps, two related ones;
- sentences should be short, not more than 20 words per sentence;
- use mostly main clauses since they are easier to follow than subordinate clauses;
- avoid having too many clauses in a sentence;
- avoid having several negatives in one sentence;
- avoid passive verbs and use active, direct verbs;
- avoid using too many impersonal words such as 'it', 'this' and 'which';
- use familiar words wherever possible;
- use concrete words;
- convert abstract words into verbs;
- explain all technical terms;
- be sure all your words are used correctly;
- use phrasal verbs and idioms sparingly;
- tailor what you write to the reading abilities of the learners.

How should you use these points to test your unit for readability?

When you have finished writing a paragraph or section it is usually necessary to revise it. When revising it is best to rewrite larger parts and to rewrite complete sentences or even paragraphs. Don't start replacing one word here or one word there as you may loose the flow and flair of language.

Although writing is certainly a question of talent, it can also be learned. If you examine your own writing carefully you can improve it considerably. Often the most crucial point in writing is the starting point. Nothing is more frustrating than an empty page because it gives you an excuse to put off writing and do other things. Try to overcome this temptation by getting into a writing mood. Start writing. After some time writing becomes much easier as words and sentences begin to flow.

Self-test 9

Now do this self-test by writing a T if the statement is true or F if it is false.

1. You must have talent to write distance education units. ____
2. The style you use should fit the subject you are writing on. ____

3. Engage your learners in a dialogue with you. ____
4. Book-keeping should be written using a teacher-centred approach. ____
5. Sentences should not be more than 40 words in length. ____
6. Use familiar words whenever possible. ____
7. Try to avoid concrete expressions. ____
8. Explain all technical terms. ____
9. Tailor what you write to the reading abilities of the learners. ____
10. Use phrasal verbs and idioms to make your language interesting. ____

Check your answers on page 167. If you got more than 3 wrong, read this unit again. If you didn't, go on to the assignment.

Checklist

In writing and proofreading the first sections of your unit make sure that you

1. organize the content according to the objectives you developed. ☐
2. organize the unit and items within it in a logical manner. ☐
3. set out the material from simple to complex tasks in order to increase the learners' confidence. ☐
4. link new information to old. ☐
5. include frequent activities. ☐
6. have learners apply their knowledge. ☐
7. revise what has been learned. ☐
8. strive for quality, not quantity. ☐
9. use the approach to suit the subject. ☐
10. avoid inconsistencies, vagueness and needless repetition. ☐
11. stick to the point. ☐
12. write at the appropriate level. ☐
13. explain difficult terms and words. ☐
14. present only one or two related ideas in a paragraph. ☐
15. use sub-headings to guide the learners. ☐
16. make sure the unit and each section is self-contained. ☐
17. build bridges between paragraphs and sections. ☐
18. ensure that sections are of equal importance. ☐

19. use a friendly, personal and conversational style. ☐
20. use numerous examples to make concepts concrete. ☐

Assignment

A. Improve these sentences.

1. If the water is not hot, do not wash the linen, unless there is no way you can heat the water.
2. The door should be locked by you every time you leave the house.
3. The principles and conditions of learning are also based on the learner because learning is an experience which occurs inside the learner and is activated by the learner.
4. It is not only in meeting these needs but in accommodating limitless numbers of students and in providing them with a sound education that this method has its greatest asset.
5. The fact that Kamau was first in the exam went to his head.
6. The soldiers in the barracks were ordered to terminate the illumination at 21 hundred hours.
7. Any discrepancy is rectified in the component concerned, be it needs assessment, objectives, content or methodology. It is not easy to evaluate everything in the curriculum.
8. A common substance to start this investigation is water. If it is boiled, it becomes steam. Steam is a gas, while water is a liquid. If water is made very cold, it forms ice, which is a solid. So water can be either a solid, a liquid or a gas, depending on whether it is very hot, or very cold, or in its normal condition.

B. Rewrite the following paragraphs.

1. In a predominantly Maasai area, introducing maize or wheat or any crop husbandry, as an economic activity in a functional literacy class, could quickly grind to a halt. In the same way, if raising pigs were introduced as an economic activity in a predominantly Muslim area, the same disaster would happen. Even subjects such as family planning, sex education, nutrition, fishing and some hygiene practice could, if values are not investigated, cause disaster in a functional literacy class. It is important that you find out from your learners what sort of values they have about particular things, before new things are introduced. Value conflicts can be avoided if

a thorough discussion is held to sort out some conflict areas.

(From a unit on Curriculum Development, Planning and Administration, for Adult Education Teachers.)

2. The psychology of the adult education methods is concerned with the approach to the learner. The learner is usually treated with high respect as an adult and the interactions between the learner and the facilitator are expected to be mutually acceptable. The learner is also a teacher while the teacher is also a learner.

   NB. For further information about the learner see the unit on the psychology of a learner.

   (From a unit on Methods of Teaching Adults, for Adult Education Teachers.)

3. The following chart shows the relationship between you and the agencies and the learning group. It also shows the interrelationship between each Unit and the other e.g. an Agricultural officer will teach the learning group the use of fertilizers when he comes with correct fertilizers, the tools used and gives the right measurements to your group thus giving them the correct support in facilities, materials and information.

   (From a unit on Psychology of Adult Education, for Adult Education Teachers.)

UNIT 6 Active Learning

This unit discusses:

- the purpose of active learning;
- how to build interactive learning into a unit;
- the different forms of active learning;
- the different types of activities that you can use in writing a unit.

Most textbooks and manuals do not incorporate active learning. They only use one-way instruction. The learner reads what has been written but in no way responds to the material. An effective instruction design in distance education, however, usually consists of a two-way process. That is to say, there is interaction between the writer's text and the learner. The learner is therefore actively involved in the learning process.

It is for this reason that the writer of distance education materials has a very different task from the writer of an ordinary textbook. Let us examine how a textbook and a distance education unit differ.

Textbook	Distance Education Unit
• one-way communication	• two-way communication
• learner is passive	• learner is actively involved
• structure is hidden	• learner is aware of structure
• self-directed learning	• learner is guided
• lecture	• dialogue
• impersonal	• friendly and encouraging
• little application of knowledge and skills	• learner applies new knowledge and skills
• no activities only at the end of chapters	• activities and exercises throughout text
• content in chapters or large blocks	• content is divided into small chunks
• no assignment	• assignment for marking
• no feedback	• feedback provided on learner's progress

Let's now see what makes a distance education unit different from a textbook.

The Purpose of Active Learning

There are a number of reasons why active learning is essential in distance education.

First, learners cannot be forced to learn since they are on their own. The writer therefore needs to make every effort to make learning more likely.

The learners should be encouraged and motivated. Consequently, the writer has the task of making the text interesting and lively.

Next, you should remember that learning at a distance is best done a little at a time. The writer must take this into consideration when developing materials. Questions, activities and exercises liberally placed in the text ensure that learning proceeds in small steps.

Lastly, the writer of distance education materials will never know whether or not the learner has actually mastered the material unless it is applied. Exercises, self-tests and assignments are an essential component to ensure this.

The purpose of active learning therefore is to:

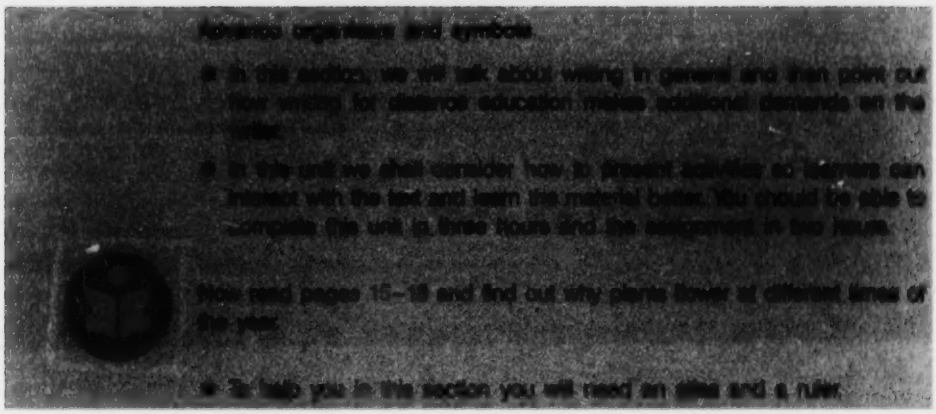
- help the learners learn, often by making them use the information encountered;
- enable the writer and learners to build up a dialogue;
- motivate learners to continue;
- encourage the learners through successful completion of their work;
- check the learners' progress;
- enable the learners to pause and make mental notes of important information;
- break the text into learning chunks;
- provide feedback on the course.

In your own words, state the purpose of active learning.

Building Interactive Learning into the Unit

It has already been pointed out that in distance education, the learner must actively be involved in the learning process. In order to do this writers must write in such a way that they are continually talking to the learner in a friendly and encouraging dialogue. This dialogue should include advice on what to do and how to do it, encouragement to the learners so that they don't give up studying, re-enforcement and praise. Here are some examples of 'pep talks' or this type of writing.

In order to have a well-written unit, the learner must be able to perceive what the writer's intentions are. The best way for the writer to convey his intentions are to include clear, well-stated objectives at the beginning of each unit. A detailed table of contents also helps the learner to know what to expect. This enables the learner to prepare himself for what is ahead. Throughout the text, the writer should have 'advance organizers'. Advance organizers are explicit statements of the writer's intentions as are symbols which indicate to the learner what is coming next. Bridges or links are also important in this regard. They carry the learners from one topic to the next and help them to relate what they are studying to what they have learned previously, and what they will learn next. Finally, the writers should revise what they have been teaching. This should be done after every main section of the text. Let us clarify each of these techniques by giving some examples.



Which of these methods can you use to build interactive learning into your unit?

Distance learners can also be helped in other ways to read the unit and select from it important points, classify them, develop arguments, formulate concepts and draw conclusions. The writer must therefore build into the text of the unit ways to help the learner do this. One of the things the writer can do is to have a clear heading scheme. This helps the learner to identify main topics and subtopics. In this way the learner is assisted to pick out the salient ideas and concepts of the unit. Another device writers can use is to underline or write in bold, difficult terminologies or points they wish to emphasize. The use of boxes also highlights parts of the text that require the learner's special attention. Lastly, the writers can itemize their thoughts by using bullets. These draw the learner's attention to the points being made.

In all these ways the writer has engaged the learner in a dialogue and active learning just the same way a teacher in a classroom would do.

Here are further examples of these methods.

1. Underlining or printing in bold.

   Soil is formed by weathering of rocks.
   Chemical weathering results in **clay**.
   Mechanical weathering results in **sand**.
   An important part of soil is **humus**.

2. Using boxes, frames or take note symbols.

You can protect your children against the six childhood killer diseases by immunization.

Always wash your hands after using the toilet.

3. Bullets

The following are the most commonly used methods of family planning.

- Barrier methods
- Medical methods
- Surgical methods
- Natural methods

The Different Forms of Active Learning

Active learning can take three forms:

- Thinking
- Writing
- Doing

Let us discuss each of these in turn.

A learner may be stimulated to think by being asked to do all of the following: answer questions, make mental notes, summarize, interpret facts, make connections between facts, transfer knowledge, relate knowledge and information to daily life, solve problems, and make inferences.

Here are some examples of these types of thinking activities.

1. Why is it important for an adult educator to be a key person in the evaluation of literacy programmes?
2. Name at least five areas which you, as an adult educator, should be trying to evaluate continuously.

(*Effective Evaluation*, Foundation Course in Adult Education.)

Involving the learners in writing activities is perhaps the most frequently used method in distance education. Even here, though, it is important to remember that there must be a variety of written work and that it must always have an instructional purpose. By being asked to do a written activity, the learners do not have a chance to be passive and dull; instead writing helps to consolidate learning and fix it in the learners' mind. It also tests comprehension. Even

mere copying is an aide to memory. Answering questions in writing gives the learners an opportunity to work things out properly. Not only can they apply things to their own situation but to new situations as well.

Look at these two examples of written activities.

When we say that co-operation is rooted in the spirit of Harambee, what do we mean?

The first question is structured, while the second one is open-ended.

The third type of active learning is learning by doing. This means that the writers must try to improve the learners' skills in a practical way.

In any distance education course, they may ask the learner to do any or all of the following:

- experiments
- making arts and crafts objects and real things
- reading, interpreting and drawing maps
- interpreting and constructing tables, charts, and graphs
- carrying out a project
- writing a report on an activity
- undertaking an educational visit
- solve problems
- apply their skills in a real-life situation, such as cooking or farming.

Here are two examples of this type of activity.

[redacted]

[redacted]

1 Put the lace, from front to back, into any one of the lacing holes. Gently pull it through leaving a small length in front. Take the lace over the top edge and put it from front to back in the next hole. Again pull it through in the back until a small loop is left.

Figure 8.3.

2 Again take the lace over the top edge (see the above illustration) and put it through the loop, from front to back (see the next illustration). The lace must pass through the loop and to the left of itself.

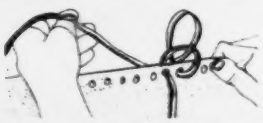
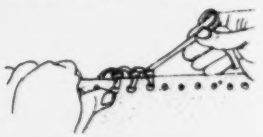


Figure 8.4.

3 You will have two loops now (see the above illustration). With the right hand, pull on the right-hand loop (see the next illustration). This will pull the left-hand loop tightly against the edge of the leather.

Figure 8.5.

4 Pull the last loop down as shown in this illustration.
Continue in this way until the whole edge is laced. When lacing is complete, tuck the loose ends between the pieces of leather and glue them down.



Taken from *Revision Art* by T.A. Kaderbhai, Oxford Univ. Press, Nairobi, 1987.

Out of the three forms of active learning, thinking, writing and doing which one will you use more of in your unit?

Let's pause at this point and do self-test 10.

Self-test 10

A. Complete the following table

Distance Education Unit	Textbook
two-way communication	_____
_____	impersonal
_____	self-directed learning
dialogue	_____
learner applies new knowledge and skills	_____
_____	learner is passive
_____	no feedback

B. Match the terms in Column A with their examples in Column B by writing the correct number before the example.

Column A		Column B	
1.	objective	___	In the previous unit you learned about the importance of evaluation in education. Now let us learn about the different types of evaluation.
2.	advance organizer	___	Experiment
3.	bridge	___	What have we learned?
4.	recapitulation	___	By the end of this unit you should be able to define the term distance education.
5.	thinking activity	___	Make a list of different types of household cleaners.
6.	writing activity	___	In this part of the unit you will need the following art materials: paint, paint brush, water, powder paint, turpentine and canvas.
7.	doing activity	___	Why is it important to do a needs assessment before developing materials for a distance education course?

Now check your answers. We hope you did well. If not, read this section again before going on.

The Different Types of Activities

Apart from the different forms of activities that writers of distance education materials can use, there are various other instructional devices available to them. Once the writers are familiar with them, they can incorporate as many of these as necessary into their units.

There are two types of activities. One type of activity is done and marked by the learners themselves using answers included in the unit. In this way the learners check and assess their own progress. These types of activities are generally called self-assessment questions. Since the learners mark these questions themselves there should be only one correct clear answer to each question. The writers should therefore use objective type questions when constructing such exercises.

The other type of activity is done by the learner but marked by the tutor. This is usually known as a written assignment. Once the learners have completed the unit, they do the assignment and post it to the tutor for marking.

Let us now look at some examples of self-assessment activities.

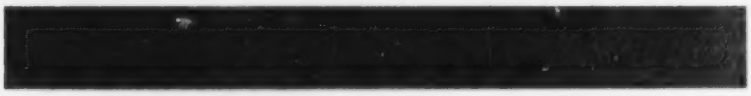
In-text questions

This type of question does not necessarily require a formal written answer. Its purpose is to direct the learners' thoughts about the text as they read it. The learners are made to stop and think for a moment.

In-text questions

- help keep the learners alert
- direct attention to what follows
- encourage the learners to pause and think before reading on
- help the learners to apply knowledge to their own situation.

Here are two in-text questions from a course on Rural Surgery.



Quick checks

This type of question is needed when important new ideas or difficult words are introduced. In order to understand these terms the learners should be given a chance to use them. Quick checks can also be used to review work or to act as a stimulus.

Quick checks

- help review
- apply knowledge
- break up learning.

Here are two examples from a course on Professional Studies.

Review or 'Stop and Check'

The purpose of this type of question is to break up the unit into small portions of work, to let the learner think about what he has just studied, to assign portions of written work, or tasks for group discussion.

Here is an example of a 'Stop and Check' question.

Now go back and read peges 8–10 on 'Why Mother's Milk is Best'. Then list the three reasons why a mother should breastfeed her baby.

Summaries

Summaries at the end of sections help the learner to see if he has understood the content and to highlight the main points.

Here is an example of a summary from a course on Basic Co-operative Knowledge.

We can summarize what we ha[illegible] learned about planning for co-operatives as follows:

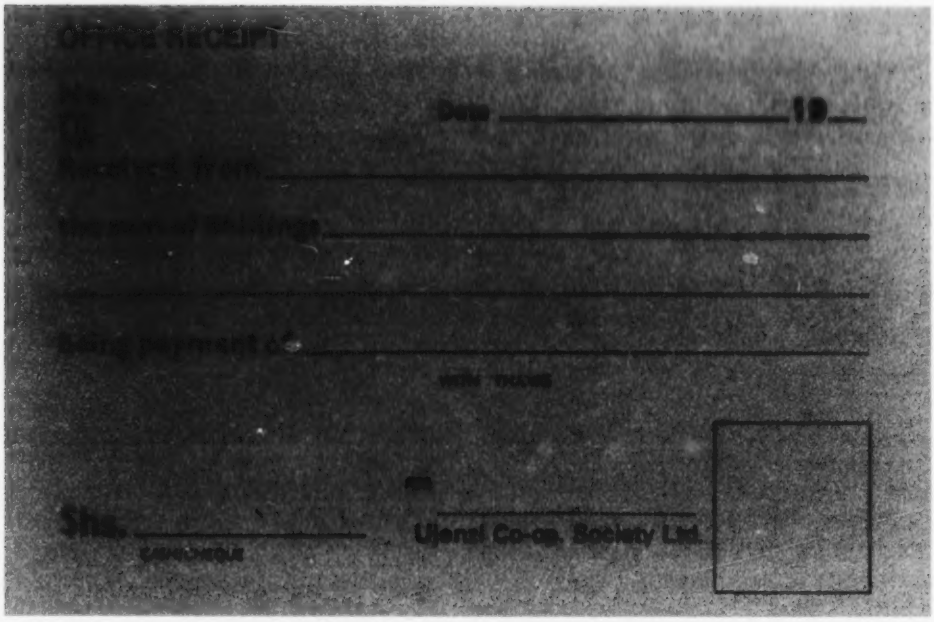
- It helps the co-operatives to achieve their objectives;
- It assists the various activities of the co-operatives to complement each other;
- It helps the employees of co-operatives to work in harmony;
- It helps the members to judge to what extent they are achieving their objectives.

Situational questions

This type of question gives a real situation where the learner applies what he has learned. It also provides an opportunity to use the skills learned in real life.

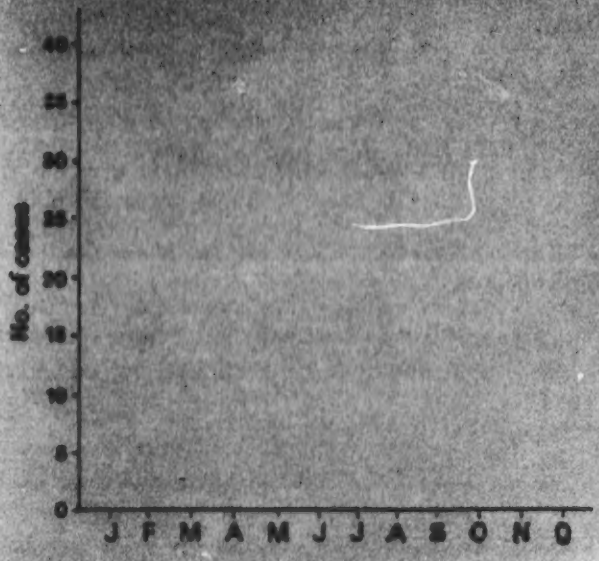
This example is from a course on Basic Co-operative Bookkeeping.

You are the secretary of your co-operative society, Ujenzi Ltd. Mr. S. Juma has just paid Shs. 250 in cash for 3 bags of cement. His membership number is 420. Fill in the receipt below according to this information.



Here is one more example from a course on Rural Medicine.

There were many cases of pneumonia diagnosed at your clinic last year. Look at the records on p. 10 and plot all the cases of pneumonia in 1984.



From the graph you plotted, was pneumonia endemic or epidemic in your area? Give reasons for your answer.

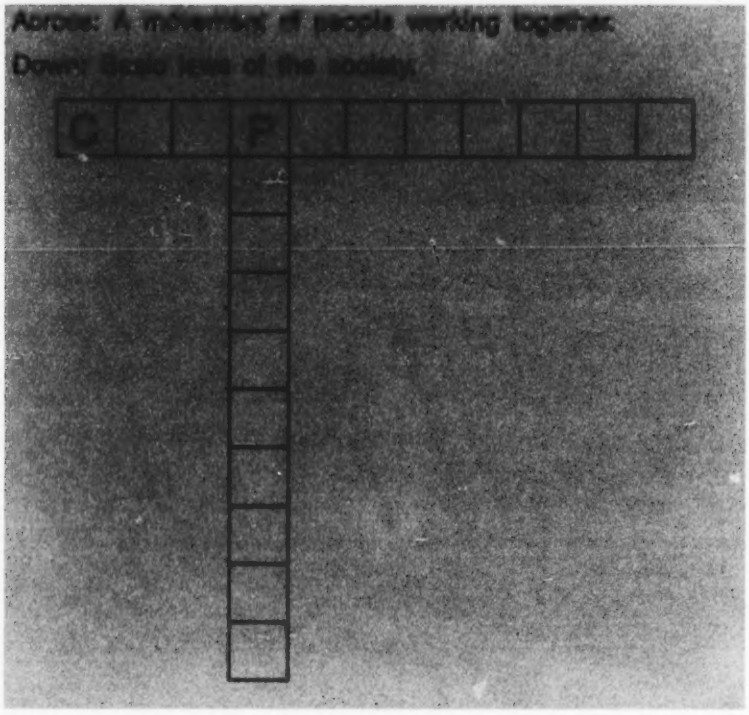
Crosswords and number puzzles

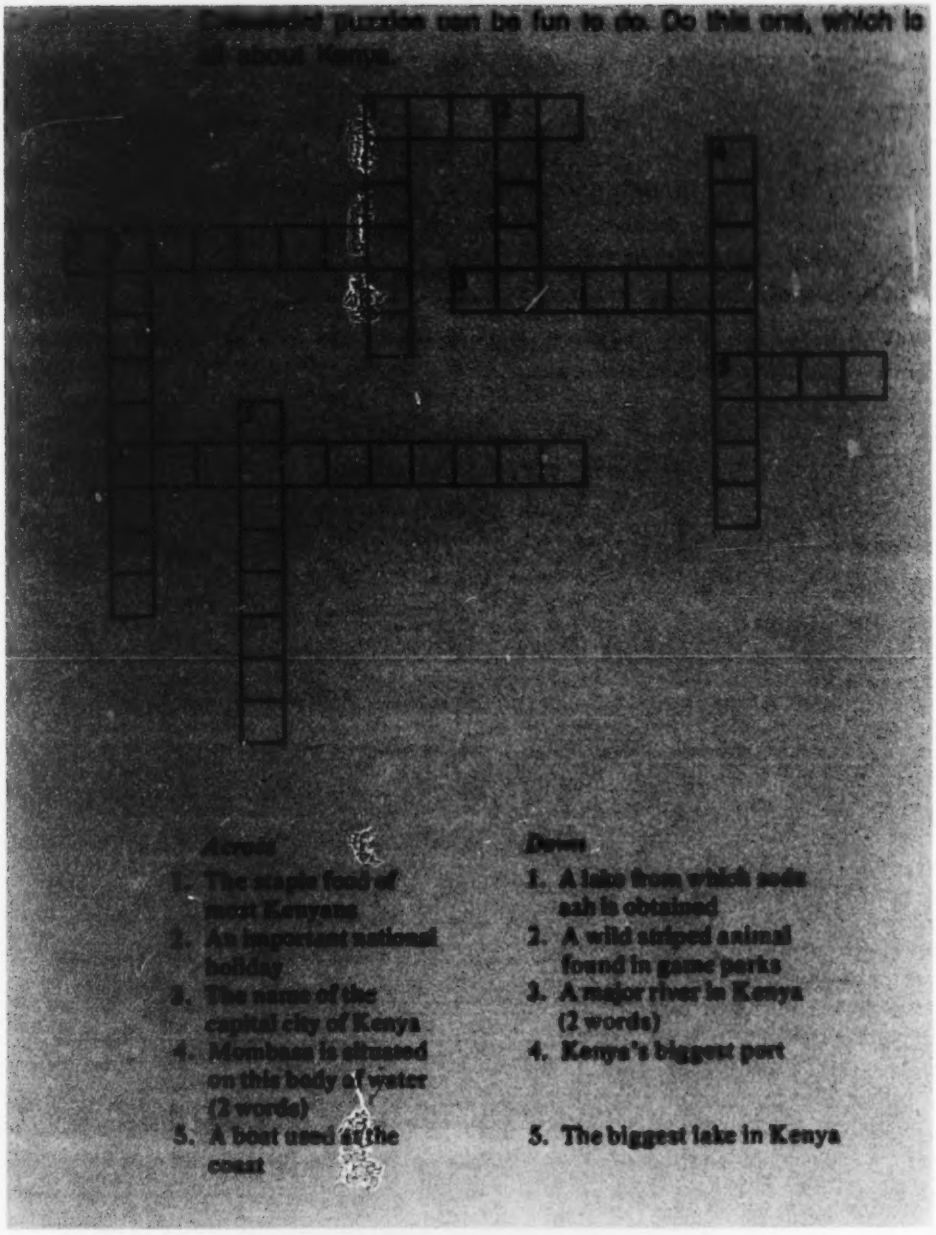
These are fun to do and the solutions can easily be checked by the learner.

Puzzles:

- increase and improve vocabulary
- are thought-provoking
- add variety and fun
- improve numeracy skills.

Here are two examples. The first is from a course on Basic Co-operative Knowledge. The other puzzle is from a primary school language course.




Across
1. The staple food of most Kenyans
2. An important national holiday
3. The name of the capital city of Kenya
4. Mombasa is situated on this body of water (2 words)
5. A boat used at the coast
Down
1. A lake from which soda ash is obtained
2. A wild striped animal found in game parks
3. A major river in Kenya (2 words)
4. Kenya's biggest port
5. The biggest lake in Kenya

Completion tables

These types of questions require the learner to fill in missing information on a table.

Completion tables:

- help student to recall specific information;
- check understanding of the text;
- help student to compare and contrast.

This example comes from a post-literacy course on immunization.

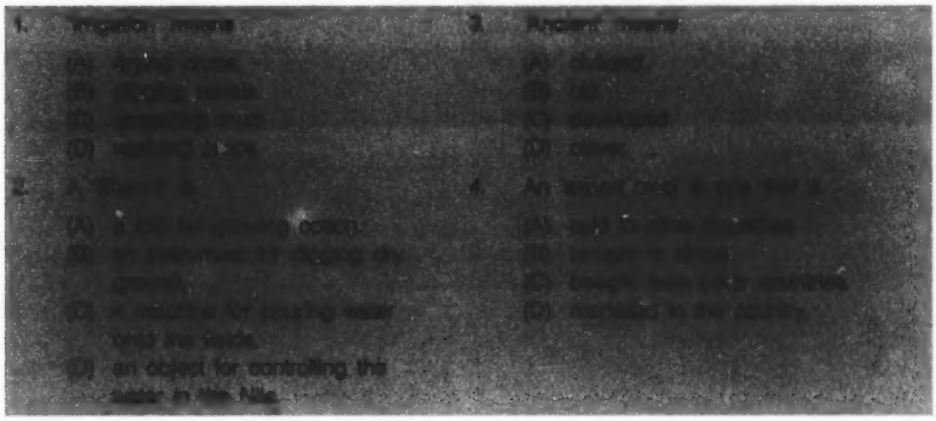
In the blank spaces of this plan, write the age of the child, names of the vaccination and the disease the child is protected against.

Age of child	Vaccination given	Disease child is protected against
At birth		Tuberculosis Polio
	DPT first dose Polio second dose	
10 weeks		
	DPT third dose Polio fourth dose	

Multiple-choice

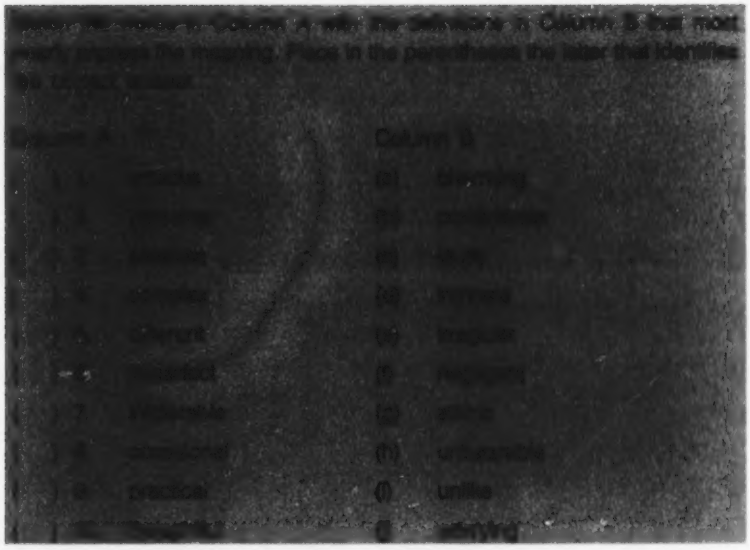
In this type of question the learner must choose the correct answer from amongst four options.

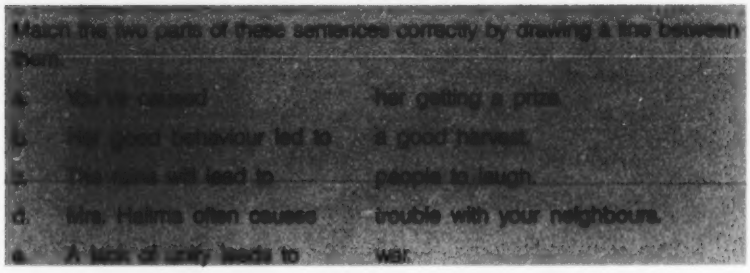
Here is an example from an English course for adults.



Matching

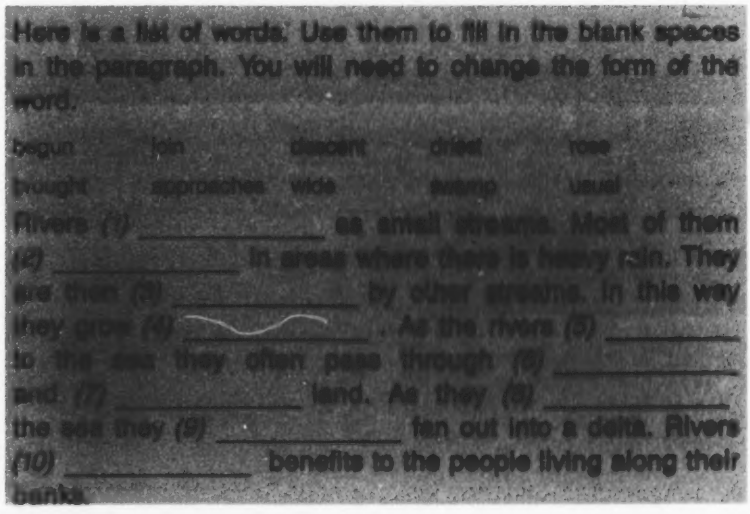
Here are two examples of matching questions. The first is from an 'O' level English course and the second is from an English course for adults.




Match the two parts of these sentences correctly by drawing a line between them.
a. We're pleased
b. His good behaviour led to
c. This noise will lead to
d. Mrs. Helms often causes
e. A lack of rain leads to
for getting a prize.
a good harvest.
people to laugh.
trouble with your neighbours.
war.

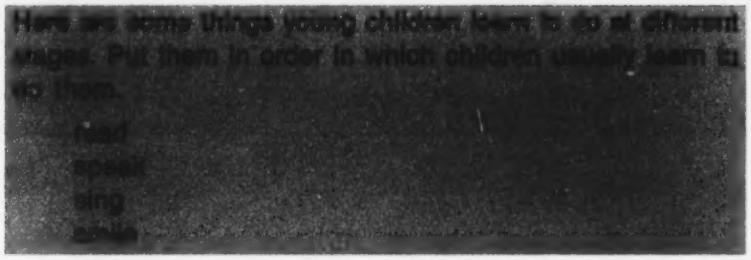
Fill-in-the-blank

Look at this example from an English course for adults.


Here is a list of words. Use them to fill in the blank spaces in the paragraph. You will need to change the form of the word.
begun join descent dried rose
brought approaches wide swamp usual
Rivers (1) _____ as small streams. Most of them (2) _____ in areas where there is heavy rain. They are then (3) _____ by other streams. In this way they grow (4) _____. As the rivers (5) _____ to the sea they often pass through (6) _____ and (7) _____ land. As they (8) _____ the sea they (9) _____ fan out into a delta. Rivers (10) _____ benefits to the people living along their banks.

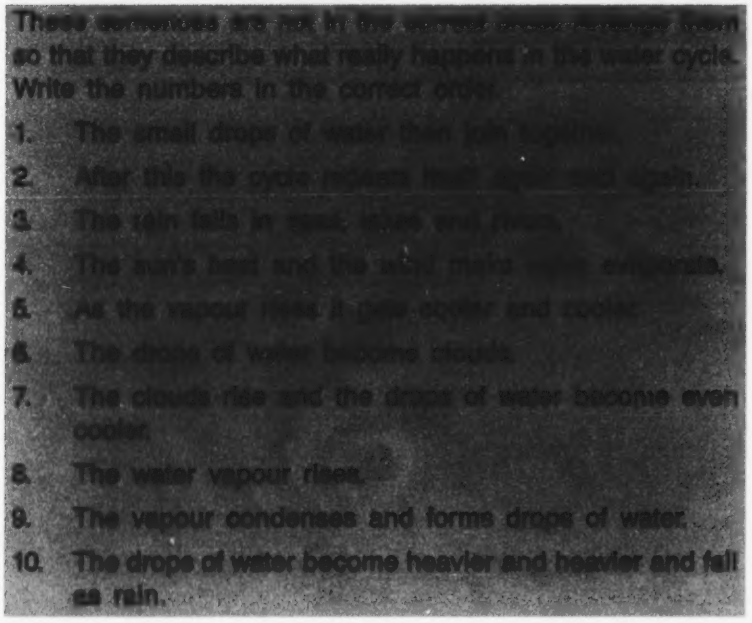
Putting items in order

Here are two examples of this type of question.



Here are some things young children learn to do at different stages. Put them in order in which children usually learn to do them.

read
speak
sing
smile



These sentences are not in the correct order. Rearrange them so that they describe what really happens in the water cycle. Write the numbers in the correct order.

1. The small drops of water then join together.
2. After this the cycle repeats itself again and again.
3. The rain falls in seas, rivers and rivers.
4. The sun's heat and the wind make water evaporate.
5. As the vapour rises it gets cooler and cooler.
6. The drops of water become clouds.
7. The clouds rise and the drops of water become even cooler.
8. The water vapour rises.
9. The vapour condenses and forms drops of water.
10. The drops of water become heavier and heavier and fall as rain.

Short answer structured questions

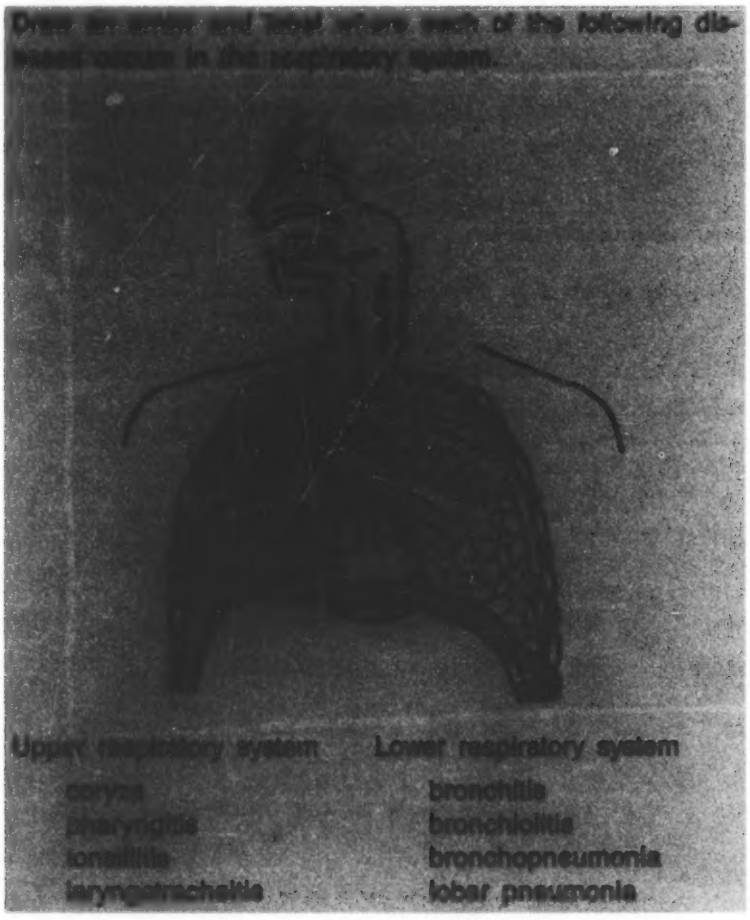
This type of question requires the learner to give a two or three word answer. He may choose the answer from the text of the unit or from a given list.

Here is an example from an English course for adults.

Labelling

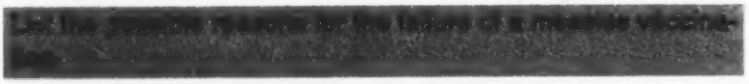
In this type of question the learner is given a diagram or map and asked to label the different parts.

This example comes from a course on Rural Medicine.



Listing

Here is an example of a listing question from a course on Rural Medicine.



The second example is from an art course.

Substitution table

This is a useful activity in a language unit. Here is one example from an English unit.

Ali and his friend were very [excited / glad / happy] about going to the Nairobi Show. They planned to see as many of the [exhibits / displays / stands] as possible. They knew their teacher would [require / ask / tell] them to write a report so they remembered to [carry / bring / take] their exercise books and pens. When they arrived at the show, it was very [noisy. / crowded. / congested.] They [went / headed / proceeded] straight to where the livestock was kept. It was [unfortunate, / disappointing, / upsetting,] though, to see that there were very few animals there.

B. Later on, Ali and his friend talked about what they had seen so far. Write out their opinions by choosing one expression from each box to complete the sentences.

Ali thinks the show is [too crowded / very expensive / very exciting / too busy] but his friend [does not agree with him. / doesn't think so. / thinks it certainly is not. / disagrees with him.] Ali says that the exhibits are [interesting. / worth noting. / very attractive. / new and informative.]

However, his friend [disagrees with him / doesn't think he's right / thinks he's wrong / does not agree with him] because he thinks they are [boring. / uninteresting. / the same as last year's. / monotonous.]

Taken from *Write Your Best* by D. Gachuhi and B. Matiru, Oxford University Press, 1986.

In addition to all these activities what other ones can you think of?

Activities which engage the learners in interaction with the study material have been illustrated by the types of examples just given. By interacting with the text the learners will complete statements, answer questions, write notes of their own, and review the material they have just read. Through these responses they should demonstrate whether or not they have acquired the learning that is supposed to be taking place.

Providing Feedback

Lastly, the learners need feedback. They must be able to assess directly if their responses have been correct. This is especially important if the response has been wrong. In this case, the learners should be guided to the correct answers or to seeking additional information.

All learner activities should therefore have answers. These must be *teaching* answers that help the learners see where they have gone wrong. Sometimes an answer may only need to refer back to the section where the point was explained. Sometimes, however, the explanation needs to be lengthy and give the student further help in tackling this type of question. Whenever possible model answers should be given, preferably at the end of the unit.

The writer can help motivate the learners by including places where they can record their score.

		MY MARK
18–20	= Very good	☐
15–17	= Well done	☐
12–14	= Not bad	☐
Below 12	= Revise this section	☐

Written Assignments

Now let us consider written assignments.

As already mentioned, assignments differ from self-assessment in that they are marked by the tutor. The tutor's time is usually the most expensive

element of the correspondence course so the writer must make sure that it is used well. It is a good idea to keep the questions that are open-ended and require extended writing for the assignment.

Assignments should not be too difficult at the beginning of the course or they will discourage the learner. They should gradually increase in difficulty and ensure that the learners build up the necessary skills. For example, where essay answers are required in the final exam, the learner should gradually move from note answers, to single paragraphs, to the full essay.

The writers should also state how long they expect the learners to take over each question and what materials they require to do it.

Assignments for the tutor may include:

- open-ended questions
- letters
- examples of forms to be filled
- accounts to be drawn up
- paragraph answers
- essay questions
- tables or graphs
- comments or opinions
- situational questions
- descriptions or examples
- reports
- projects
- experiments.

Here are three examples of written assignments from different courses.

Describe how to test margarine for protein, fat and carbohydrate content.

Conduct an experiment on friction and describe the results.

In 500 words describe how an adult educator makes use of local resources.

For each assignment a detailed marking scheme is necessary. This is especially important when more than one tutor marks the work because, as far as possible, the marking must be uniform. A good marking scheme includes:

- set answers or model answers
- indications of possible areas of difficulty
- a breakdown of marks for each question
- the total marks for the assignment
- reference to the unit, text books or further reading, if necessary.

From the learners' point of view, the activities are the most essential part of the unit. Through reading the unit the learners get information and ideas, but they learn through practice, repetition, re-enforcement, problem solving and applying their new knowledge and skills in activities. Therefore, the activities are the most important thing for the writer to think about when developing the unit.

Self-test 11

Respond to these statements by writing YES or NO.

1. Self-assessment questions are usually marked by the learners. ____
2. Situational questions provide an opportunity to respond to a real-life situation. ____
3. In-text questions are marked by a tutor. ____
4. Multiple-choice questions require written answers. ____
5. Written assignments usually consist of true and false and quick check questions. ____
6. Summaries are brief reviews of what has been learned. ____
7. Labelling activities are useful in the teaching of the science subjects. ____
8. Substitution tables have one correct answer only. ____
9. Answers to self-tests are found at the end of the unit. ____
10. Every student must make a good marking scheme. ____

Now check your answers. You should have all the answers correct. Take a break before you go on to the assignment.

Assignment

1. Prepare one thinking, writing and doing activity for your unit.
2. Prepare a written assignment question for your unit and the marking scheme for it.

Checklist

In building active learning into the structure and layout of your unit, have you included:

1. clear objectives ☐
2. detailed table of contents ☐
3. clear titles and headings ☐
4. advance organizers ☐

5.	symbols	☐
6.	bridges or links	☐
7.	bold type or italics	☐
8.	generous spacing between paragraphs and sections	☐
9.	use of bullets	☐
10.	use of boxes	☐
11.	underlining	☐
12.	recapitulation	☐
13.	pep talks	☐
14.	counselling	☐
15.	advice on good study skills	☐
16.	a variety of thinking, writing and doing activities	☐
17.	a variety of self-assessment activities	☐
18.	a written assignment	☐
19.	clear answers	☐
20.	scoreboard	☐

After completing the unit did you make a marking scheme? ☐

UNIT 7 Developing a Format for Writing

This unit will help you to decide on:

- the size of the unit;
- the typesize to use;
- the typeface to use;
- the cover of the unit.

In order to develop a format for writing, there are a number of things that writers need to consider about the layout of printed materials. These may often be decided on by the institution, or the editor in association with the writers. However, the more the writers know about this before they start, the better. Whatever format you decide on though, one thing is very important. The layout should be simple and easy for students to follow. It is also important that students are able to see at a glance what they are supposed to do at a particular place in the unit or lesson.

Let us now consider the overall appearance of the unit in terms of:

- the size of the unit
- the typesize
- the typeface
- the cover of the unit

The Size of the Unit

One of the most common page sizes used in printed materials is A4. One advantage is that you can put more material on each page and can easily fit pictures and other features on a page as it is so large. Another advantage is that you can type across the page and therefore little or no paper is wasted. Moreover you can have a margin which can be used for signs or symbols.

Here is an example of such a page slightly reduced:

Exercise 10
What do you think?
Maxay kula tahay?

Remembering what you have learned about making yes-no questions, how would you make the sentence below into a question?
Adiga oo xusuusan wixii aad ka soo baratay samaynta su'aalaha haa-maya sidee baad weedha hoos ku qoran su'aal ugu beddeli lahayd?

These are pots.

_____ _____ _____?

Now try this one:
Haddo isku day tan:

Those are your pencils.

_____ _____ _____ _____?

Be sure your answers are correct before you go on.
Hubi iney jawaabahaagu sax yihiin into aadan sii wadin.

Exercise 11
Look at the pictures and write yes-no questions about them.
Sawirada eeg oo ka qor su'aalo haa-maya oh.

Example:
Tusaale:
A.,

Are these yours pencils?

Taken from an English Course prepared by the Institute for In-service Teacher Training, Mogadishu, Somalia, 1985.

You may decide to arrange an A4 page in two columns. With this layout you can put a lot of material on a page and avoid long lines. You still have space for signs and symbols as shown in this slightly reduced example.

1. Read the poems in your selection with great care making full use of the notes given and our own notes above. On this occasion, as the poet is difficult at the beginning, we suggest that you answer in writing the questions under the letter 'A' in the notes on page 120-8, at least for some of the poems (not to be submitted to your tutor).
2. Make your own notes on each poem, and add your opinion of it.
3. If you want to go further, get the Penguin Hopkins edited by W. H. Gardner. This is a superb collection of all the poems and a good selection of the prose, thoroughly and sensitively annotated.

SUGGESTED ANSWERS TO THE COMPREHENSION RESPONSE AND APPRECIATION QUESTIONS

Here are our suggested answers to the questions set in Unit 20, with a few notes. Please remember that while these would be considered satisfactory there may be other equally good answers.

1.
(a) "I was growing less timid ... squalor and brutality." (paragraph 1).
(b) "And what a glorious half mile ... to Surrey Lane." (paragraph 4)
(c) "I was delighted to lie there ... visits to the park." (paragraph 5).

(Paragraph 2 also makes an implicit contrast, and the opening of paragraph 4: but the above examples are perhaps better.)

2. He refers to the kind of "picturesqueness" which impresses only by its squalor and brutality; poverty is often picturesque, but only in a "negative" sense – it is never beautiful in the ordinary sense.
3. He must have taken his country holidays in late summer, August or September, as he had never "seen nature in springtime and high summer."
4.
(a) dangerous, risky, difficult to cross.
(b) the metal structure is finely designed, slender, decorative and ornamental.
(c) the leaves are gold, which suggests a treasure-house, moreover, they are precious to him because of their beauty.
5. He almost stops having internal pains and he begins to run instead of walking to and from school.
6. He longs for solitude so that he can savour his new "wonders"; at the same time he wants company so that he can tell others about them. His childhood has been in some ways under-privileged, and the novelty of his new surroundings is so great that he is "in a whirl" of excitement; hence he wants both solitude, to experience his surroundings more deeply, and company, because he believes they will appear equally novel to everyone else.
7. "Riches", "enchanted", "wonders", "drama of new experience", "glorious", "delighted", "flinging up my arms as I ran", "crazed" (there are several others).
8.
(a) "Transplanted" makes us think of a living organism, replanted in more promising soil and surroundings.
(b) "Towering" stresses the way in which the trees shoot up and look vast to the small boy beneath them.
(c) "Crests" suggests a living, moving head like the crest of a bird's head, swaying in the wind.

ASSIGNMENT K

The Assignment which follows is in two parts, based on Paper I and Paper II of the AEB examination in English Language you'll be taking. Don't start till you have 1½ hours to spare for Paper I. You'll need a break before tackling the second paper, and then you'll need 1¾ hours.

In our final unit we'll be giving you advice on taking the actual examination. Most of the rest of the course will be spent revising, but we won't be going over in detail much of the work we've done for the language papers, as these involve skills you've been building up gradually throughout the course; by now, you'll be very competent in some areas while being aware of your own weaknesses in others.

So this assignment, while it is a practice run for the exam, is also a revision exercise; if you make mistakes now – in planning your time, in discovering a weakness over a type of question – there's still time to learn from your mistakes. You'll need to go through your tutor's comments on this assignment very carefully, and use any specific suggestions he may make to help you in your final exam preparation.

Don't read on any further until you are ready to tackle the first paper.

Writing this Assignment

Please take this paper in conditions as close as you can to examination conditions, i.e.

1. Spend exactly 1½ hrs, at a stretch if you possibly can, on Paper I (Essay); and 1¾ hrs on Paper II.
2. Make no use of reference books or course material while you are answering the papers.
3. Plot the time carefully, so that your essay is finished and revised in the time, and you answer all the necessary questions in Paper II.
4. In the event of an unavoidable interruption, point this out to your tutor. If a prolonged interruption does occur, allow yourself extra time for reading through the work you had done before the break.

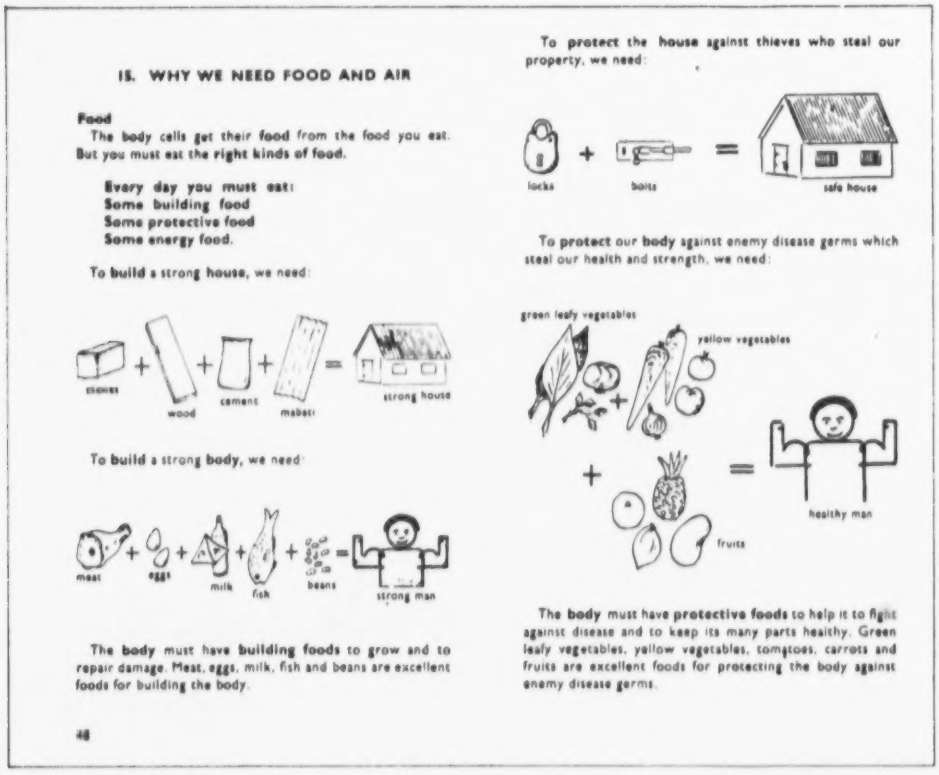
Paper I (1½ hours)

Write a composition on ONE only of the following subjects. Put the number of the subject chosen at the head of your paper.

1. Roads.
2. Moving House.
3. The future of *either* (a) The Cinema *or* (b) The Theatre.
4. The delights of one of the following pursuits: (a) Birdwatching (b) Hiking (c) Camping (d) Gardening.
5. "A Woman's Place is in the Home."
6. Using Richard Church's account of the move of house from Battersea to Dulwich as a "starting

Taken from an English language and literature course, National Extension College, Cambridge, 1975.

You can also use an A4 landscape for tables, charts and text with illustrations or for three columns. This means that the page has its longer sides at the top and bottom as shown in this example which has been reduced.



15. WHY WE NEED FOOD AND AIR

Food

The body cells get their food from the food you eat. But you must eat the right kinds of food.

Every day you must eat:
Some building food
Some protective food
Some energy food.

To build a strong house, we need:

stones + wood + cement + mabati = strong house

To build a strong body, we need:

meat + eggs + milk + fish + beans = strong man

The body must have building foods to grow and to repair damage. Meat, eggs, milk, fish and beans are excellent foods for building the body.

48

To protect the house against thieves who steal our property, we need:

locks + bolts = safe house

To protect our body against enemy disease germs which steal our health and strength, we need:

green leafy vegetables + yellow vegetables + fruits = healthy man

The body must have protective foods to help it to fight against disease and to keep its many parts healthy. Green leafy vegetables, yellow vegetables, tomatoes, carrots and fruits are excellent foods for protecting the body against enemy disease germs.

Another common size for educational materials is A5. The text is normally typed straight across the page. It is a good size for easy reading, although it is too small to divide into columns.

Here is an example of such a page.

28

4. MEMBERSHIP OF PRIMARY SOCIETIES

In topic 3, "Registration of co-operative societies", we learnt about the legal requirements and the procedure for registration of a co-operative society. In this last topic of this unit, we shall learn about the qualifications an individual must have to qualify for membership in a co-operative society.

4.1. Qualifications for Membership

Who can join a co-operative society?

Rule 12 of *The Co-operative Societies Rules* tells us that no registered society shall fix any limit to the number of its members. You may also recall that in unit 1, the same message was carried by the principle of 'open membership'.

Taken from a course on Co-operative Knowledge, published by Co-operative College of Kenya, 1987.

In deciding on the page size and the size of the unit therefore, you should keep in mind who will be reading the book and what is the most convenient in terms of cost and availability of paper. Other suitable sizes for distance education materials are B5 (176 × 420 mm).

Do you have a choice about the size of the unit? If so, what size will you choose? If no, what size does your institution use?

Typesize

There are a number of different typesizes you can select. In most educational materials either 9 point, 10 point, or 12 point typesizes are used. They look like this:

9 pt. PLANTIN LIGHT—Series 110
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ

10 pt. PLANTIN LIGHT—Series 110
abcdefghijklmnopqrstuvwxyz 1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ

12 pt. PLANTIN LIGHT—Series 110
abcdefghijklmnopqrstuvwxyz 1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ

These are all good, readable sizes. You should avoid using very small type as it is too dense on the page and rather intimidating to the reader.

Typeface

Most typefaces are easy to read. There are many to choose from. The most commonly used typefaces in educational materials are either Univers

The winter is past, the rain is over and gone, the flowers appear on the earth, the time of the singing of birds is come and the voice of the turtle is heard in our land. The fig tree putteth forth her green figs, and the vines with the tender grapes give a good smell. There are your own friends, the singing birds, in the grove as happy as ever, and they pour into your ears such glad notes as may cheer you if you feel dull or sad.

or Times

> The winter is past, the rain is over and gone, the flowers appear on the earth, the time of the singing of birds is come and the voice of the turtle is heard in our land. The fig tree putteth forth her green figs, and the vines with the tender grapes give a good smell. There are your own friends, the singing birds, in the grove as happy as ever, and they pour into your ears such glad notes as may cheer you if you feel dull or sad.

It is a good idea not to mix two typefaces in the same book. However, you can use different type styles for emphasis, for example you can use a bold typeface such as this:

abcdefghijklmnopqrstuvw 123
ABCDEFGHIJKLMNOPQRS

or you can use an italic typeface such as this:

abcdefghijklmnopqrstuvwxyz 1234
ABCDEFGHIJKLMNOPQRST

Explain why these typesizes and typefaces are or are not suitable for your learners.

The Cover of the Unit

Every unit needs a cover. Although the cover is usually prepared by designers, you should brief them on the kind of cover you want. If a standard cover is to be used for a particular course it becomes like an institutional trademark. This makes the course easily recognizable. Try to make the cover distinctive. This can be done by choosing suitable and attractive colours or by using a code or a symbol which distinguishes it from another course.

Covers may have the following information on them:

- the name of the institution
- the title of the course
- the title and number of the unit.

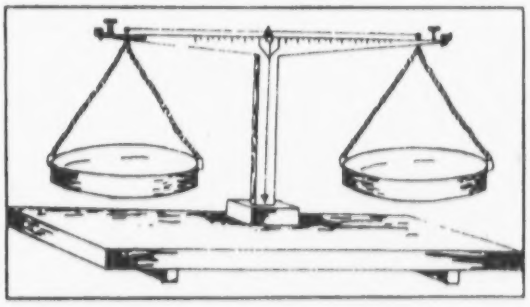
All these features should be in large print and stand out clearly. It is best to use stiff artboard if it is available because it is more durable. Look at the following two examples.

FOUNDATIONS COURSE IN ADULT EDUCATION
FOR
ADULT EDUCATION TEACHERS

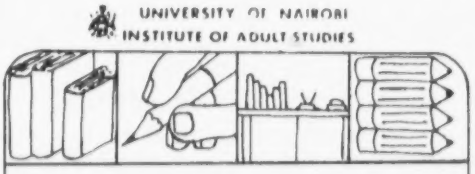
Effective Evaluation

UNIT FOUR

When to Evaluate



Correspondence Course Unit
and
Department of Adult Education
© 1983



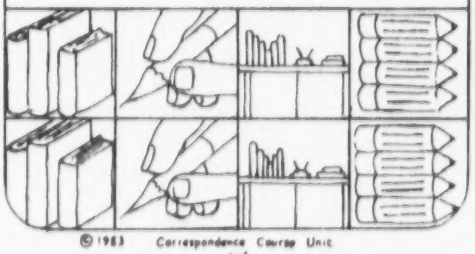
UNIVERSITY OF NAIROBI
INSTITUTE OF ADULT STUDIES

INSERVICE COURSE FOR UNTRAINED TEACHERS

PROFESSIONAL STUDIES

UNIT ONE

SECTION ONE



© 1983 Correspondence Course Unit
and
Ministry of Basic Education

Did you notice that these covers:

- are not cluttered?
- give all the information required?
- catch the reader's eye?
- are aesthetically pleasing?

Layout of the Unit

Once these decisions have been made, you now need to think about the layout of the content. To begin with each unit should have

- a full title page – this page has the title of the course, the title and number of the unit as well as the writer's name;
- a reverse of title page – this shows the copyright holder and date of publication.

Sometimes the name of the artist and editor are included on the title page. At other times the artist is included on the reverse of title page.

Here are examples of these two pages from a course by the Co-operative College of Kenya.

BASIC CO-OPERATIVE KNOWLEDGE

UNIT SIX

INTRODUCTION TO
CO-OPERATIVE LAW

Revised edition

Mark M. Marambii

A Correspondence Course for Co-operatives
Offered by the Co-operative College of Kenya

© The Co-operative College of Kenya 1987
The Education Media Service Department
P.O. Box 24814, Karen, Nairobi, KENYA.

First printed in 1979
Second revised Edition, 1987

All rights reserved. No part of any of the series in the Correspondence Course material, may be reproduced, transmitted in any form or by any means: electronic, mechanical, photocopying, recording or otherwise, or stored in a retrieval system without prior permission of the copyright owner.

- a table of contents – this is a useful page which tells you what is in the unit. It should be as detailed as possible.

CONTENTS

Introduction

Objectives 1

1. The Nature and Meaning of Law 3
   - 1.1 Sources of Kenya law 6
   - 1.2 The Need for Law 8
2. The Meaning and Sources of Co-operative Law 12
   - 2.1 The Meaning of Co-operative Law 12
   - 2.2 Main Sources of Co-operative Law 14
   - 2.3 Secondary Sources of Co-operative Law 17
3. Registration of Co-operative Societies 20
   - 3.1 Societie's which may be registered 21
   - 3.2 The Procedure for Registratoon 22
   - 3.3 Legal Consequences after Registration 26
4. Membership of Primary Societies 29
   - 4.1 Qualifications for Membership 29
   - 4.2 Loss of Membership 30

- unit objectives – these are usually expressed in behavioural terms
- the content – this may be divided into sections or parts
- written assignment – this is for the student to complete and send in for marking
- answers to self-tests – these should be provided along with the award of marks
- bibliography of references or essential texts that have been used or referred to in the unit.

You are about half-way through this unit. Do the following self-test to see how well you have understood it so far.

Self-test 12

Answer these questions as briefly as possible.

1. Name three of the most common page sizes used in printed materials.
2. Name three of the most common typesizes used in educational materials.
3. Name two suitable typefaces for educational materials.
4. List three items of information that should be on a unit cover.
5. What is usually found on the reverse of title page?
6. Why should a table of contents be as detailed as possible?

Check your answers. Did you do well? Good. Now complete this unit.

When making decisions about the layout of the content, there are yet other points to consider:

- general layout
- headings
- illustrations
- capitalization, spellings and abbreviations

General Layout

You already know that clarity is an essential feature of distance education materials. To help ensure clarity in as far as the layout of the text is concerned here are some questions you should ask yourself.

- Do you start each unit with a new page?
- Do you start each section with a new page?
- How do you lay out the exercises? In a frame? Indented? Is there a symbol to identify them? Where is it?
- How do you lay out special features like objectives or summaries?
- Will you leave a space for students to write answers or not? Will you print lines for them to write on? Solid lines or dotted lines?
- How will you present the answers to self-tests?
- How are paragraphs arranged? Is there a space between them? Is the first line indented?
- Where is the page number? Bottom, corner or centred?

Look at your unit and answer these questions about it.

Headings

You must use a consistent heading scheme in each unit. Therefore you should think about:

- What type will you use for main headings and subheadings?
- Are headings centred or at the side? Underlined or not?
- Are headings numbered? If so, how?

Here is one example of a heading scheme which would be suitable for a history unit.

SECTION 3: The History of East Africa c. 1885 to the Present Day

INFORMATION

East Africa on the Eve of the Scramble

RESPONSE OF EAST AFRICAN COMMUNITIES TO THE COMING OF THE EUROPEANS

It is the nature of human society to rise and become strong and to decline and fall. Thus societies which in the past gave rise to powerful empires, like Greece under Alexander the Great and Britain in the 19th and early 20th century, are today considered to be second-class powers. Others are

How many levels of headings are there?

Yes, there are four levels of headings which include

A Headings – these are the main headings of sections

B Headings – these are the first level of subheadings

C Headings – these are the headings for the main parts of the section

D Headings – these are the subheadings for the main parts of the section.

Unit headings and subheadings should be as specific as possible so that they enable the learner to predict the contents of the section concerned.

Illustrations

Illustrations should be self-explanatory, capture the reader's interest, have instructional value and be an integral part of the text.

Each time you place an illustration in the text you must decide:

- how much space does it need? Often you decide that the illustration will either be a quarter, half or full page.
- where should it be? Ideally an illustration should be next to or certainly near to the text it refers to.
- how should it be arranged? Does the illustration come above the text it refers to, or below it or beside it?
- what caption and labels should the illustration have?
- are they numbered or not?
- should they be framed or not?

It is important that you give the artist and designer clear instructions as to exactly what you want. Here is an example of how you might do this.

> Picture 4 here.
> Drawing of a couple at a pre-natal clinic. They are being advised by a health worker. FP chart on wall behind her.
> The picture should be 10cm high.
> Caption: Pre-natal care of the mother is important

Here is the illustration the artist drew, based on this brief.

Pre-natal care of the mother is important

Capitalization, Spelling and Abbreviations

It is extremely useful to draw up a list of rules concerning capitalization, spelling and abbreviations.

If everyone tries to follow it, then writing and editing will not be too difficult. Here are some questions you need to answer about these issues before you begin to write:

- When do you use capitals?
- Which spelling, British (neighbour) or American (neighbor) will you use?
- Will you use figures (10) or words (ten)?
- Will you use spaces (4 500) or commas (4,500) to indicate thousands?
- How will you express dates? (15 May 1985 or May 15th)
- How will you express time? (13.00h or 1 pm)
- Which abbreviations will you use? It is not acceptable to use e.g., i.e. or etc. in the text. On the other hand, you should explain other abbreviations you are using the first time they appear in the text and then use them. For example,

  . . .The Department of Adult Education (DAE) is responsible for adult education classes.

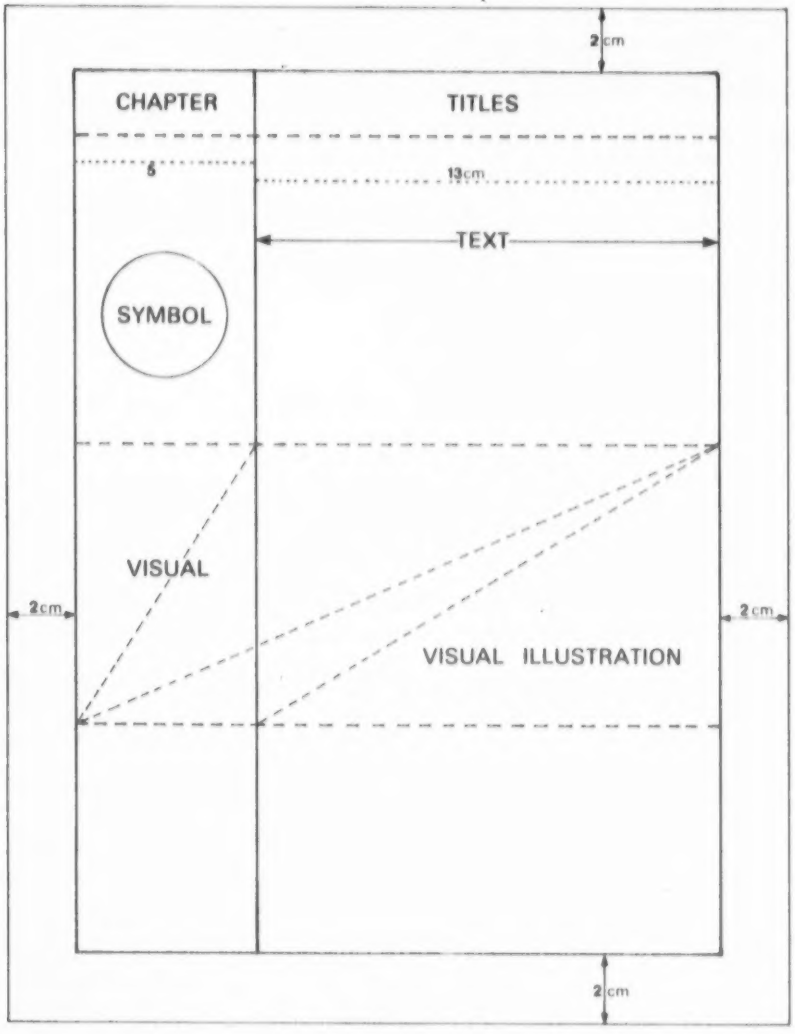
It is common practice in educational materials to use italics for foreign words and technical terms. Moreover, inverted commas are used for single quotes. For example, . . .You should plant *sukuma wiki* before the onset of the long rains. . . . . .What is meant by *random selection*?

Make a list of these decisions about your unit. Check if your institution has a list of rules you can follow.

Briefing the Typist

It is often necessary to train the typist to lay out the pages correctly. Giving the typist a layout of the page like the ones here, which are slightly reduced, is quite useful:

A4 LAYOUT



UNIT 5	what.... ?
Activity Symbols and illustrations	Type your text here,Type your text here Type your text here, type your tex t here, type your text here type your text here, type your text here, type your text here Type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here thpe your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your te f here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text here type your text

It is also necessary to give the typist a list of the agreed rules on capitalization, spelling and abbreviations. Go over it together, explaining each point. Be sure to specify single or double space.

You should always encourage the typist to consult you over any difficulties and problems. Then let the typist type a small amount and show you what has been done. Typists should be encouraged to read through their own work before they show it to the writers.

Self-test 13

Complete these statements by writing the correct word in the blank.

1. Each unit must have a _____ heading scheme.
2. A unit usually has main headings and _____ .
3. All illustrations should be _____ .
4. Writers should give clear _____ about the illustrations they want.
5. It is useful to draw up a list of rules concerning _____, _____ and _____ .
6. Foreign words and technical words are usually typed in _____ .
7. It is helpful to give the typist a _____ of the page design.

Check your answers on page 168. How did you do? If you did well, go on to the assignment.

Assignment

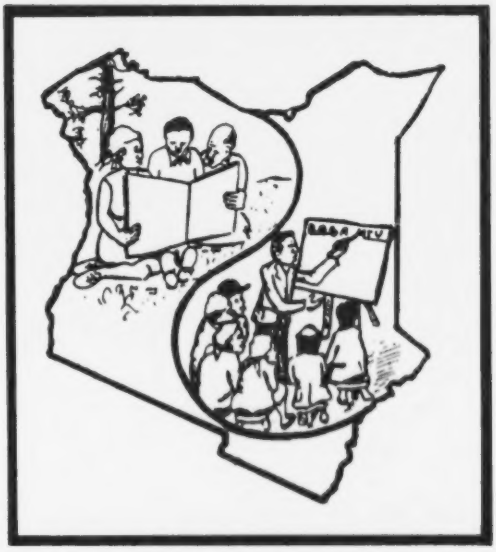
A. Comment on these three covers and suggest any changes you might make.

ADULT EDUCATION TEACHERS' COURSE

Human Relations and Communication Skills

UNIT THREE

Working in Groups



JOINTLY PREPARED BY

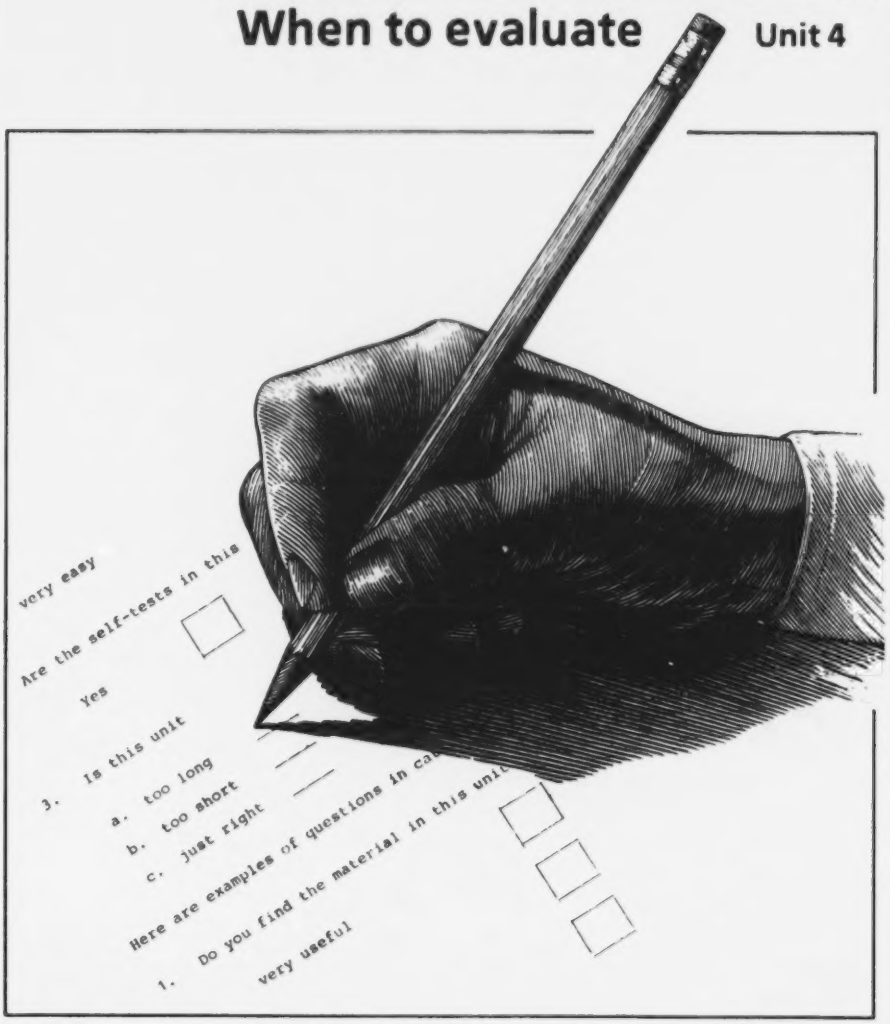
UNIVERSITY OF NAIROBI
COLLEGE OF ADULT AND DISTANCE EDUCATION
SCHOOL OF DISTANCE STUDIES

MINISTRY OF CULTURE AND SOCIAL SERVICES
DEPARTMENT OF ADULT EDUCATION

Effective Evaluation

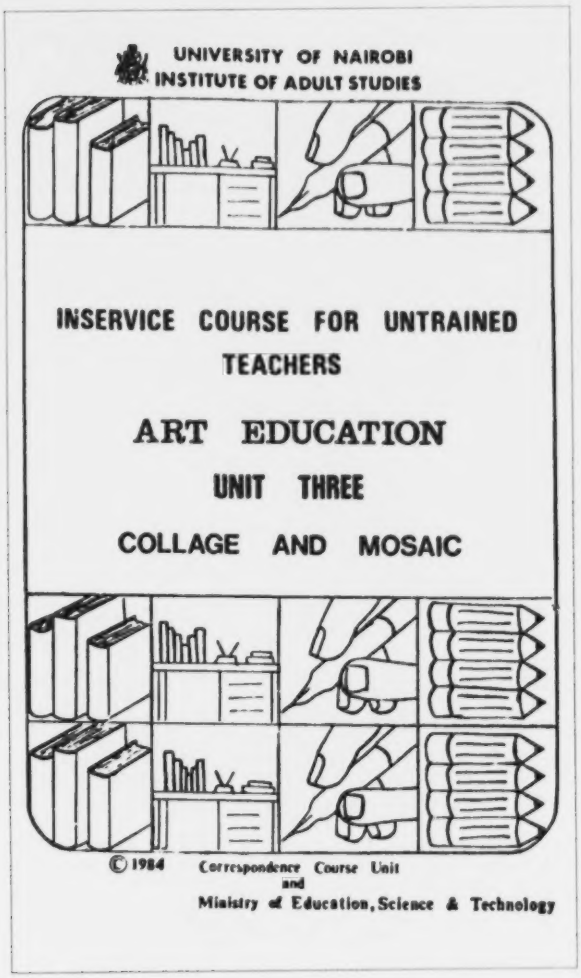
When to evaluate

Unit 4



Foundations Course in Adult Education for Adult Education Teachers

Correspondence Course Unit and Department of Adult Education © 1983



B. Study the following two pages and make comments on:

- the general layout
- spelling, capitalization and punctuation
- illustrations
- type
- pagesize
- heading scheme

2. MODERN CO-OPERATION

You have learnt that traditional co-operation is a loose association of people who are bound together by their sense of social duties and the desire to help one another. In contrast, modern co-operation is regulated by the laws of the country and the co-operative principles. Both forms of co-operation, however, aim at assisting their members to improve or better their standard of living by voluntarily joining together to work as a team.

The Headquarters of a Co-operative Union

2.1. How do you Define Modern Co-operation?

You can define this as a group of not less than ten people who have realised a need to join together and work as a team to satisfy that need to the point of bringing in better returns to all the members. . To-day we call such a co-operative, a co-operative society. In order for a group to operate as a co-operative society in Kenya the law requires that the members of the group must apply for registration to the Commissioner for Co-operative Development and be registered as such.

Taken from a course on Basic Co-operative Knowledge, Co-operative College of Kenya, 1987.

In order to achieve the above goals, the curriculum used must be relevant to the social, cultural and economic aspirations of adult population.

Let us now look at some of the basic areas which should be covered by such a curriculum.

(a) General Education

This may include literacy skills and/or continuing education programmes on the formal education system.

(b) Education related to Nature, purpose and Organization of economic activities

Adult Education should provide skills which will enable adults to make maximum contribution to the growth of our economy. These may be in:

- agricultural extension services
- skills in management, supervision and financial control of organizations such as farmers, cooperatives
- planning and management skills for personnel working in public service or non-governmental institutions
- Technical and commercial education.

(c) Education related to nature and structure of the society

This area includes teaching of foundamental issues that affect the life of a society. For instance, it is important for members of a community to understand how their government operates. Such an understanding will help them to exercise their rights without fear. They will also appreciate the fact that they have a role to play as citizens of that particular society.

Another area which is included in this category covers health matters. Members of a community should be informed of new methods of preventing diseases, personal and public hygiene, sanitation, family planning and other issues related to health.

Taken from a course on Adult Education on Curriculum Development.

Checklist

In developing the format for your unit, have you made decisions about:

1. page size? ☐
2. a vertical or horizontal page? ☐
3. typeface? ☐
4. typesize? ☐
5. whether or not to have columns? ☐
6. the cover design? ☐
7. what to include on the title page? ☐
8. what to include on the reverse of title page? ☐
9. the details to include in the table of contents? ☐
10. the general layout? ☐
11. the heading scheme? ☐
12. illustrations? ☐
13. capitalization, spelling and abbreviations? ☐
14. how to brief the typist? ☐

UNIT 8 Visualization in Distance Education Materials

In this unit you will learn about:

- what a visual is;
- why visuals are needed in distance education materials;
- the types of visuals used in distance education materials;
- the characteristics of a good visual;
- designing visuals.

So far in this handbook we have been mainly concerned with the discussion of words. Words are signs but there are signs of different sorts such as visuals.

Illustrations or visuals are a very important part of all educational materials. Since we communicate through words, symbols and visuals, no distance education course would be complete without any one of these. Illustrations are good for conveying concrete ideas and therefore they are important in providing support when teaching concepts. Furthermore, illustrations and diagrams are good for conveying ideas that have to be considered at the same time.

What Is a Visual?

Visuals are something you are able to see. They refer to a variety of materials such as:

photographs	signs
line drawings	films
paintings	slides
posters	models
objects	books
cartoons	newspapers
charts	graphs

Identify other visuals that you see around you.

All visuals help us to communicate with people whether they are near or far.

In ancient times before written language was introduced, our ancestors used illustrations and drawings to express themselves. They drew pictures which described hunting stories, their victories in war and their folklore. These simple line drawings scratched on stones and the walls of caves have enabled us to learn much about early man's life.

Visuals are divided into different types according to the techniques used to produce them. Some are very lifelike such as a film, colour photograph or realistic painting. Others are more abstract such as shaded line drawings, water colour washes or black and white photographs.

When we communicate we should know our learners' perception and their previous exposure to such visuals. This will guide us when choosing visuals to support our written materials.

Visuals usually support the written word. Therefore they should be placed next to the relevant text. They emphasize and sometimes even replace words.

If you have ever tried to describe a person by using words only, you probably found it was very difficult and you needed many words to do so, going into small details such as the shape of the nose, eyes and mouth. You probably discovered that your audience was unable to recognize this person at all, but once you showed a photograph of the person, the audience recognized him immediately without a single word needing to be said.

Try this exercise now with some of your colleagues.

Generally, people trust visuals more than words. But remember a visual which is misunderstood can drastically mislead you.

The following story illustrates why people tend to trust visuals more than words.

> Two men met on a small narrow path. One was tall and the other was short. The tall one said, pointing to his right, 'There is a lot of gold in that river'. 'Are you sure?' the short man asked. 'That's what people say', the tall man replied.
> The short man asked, 'Do you believe everything you hear?'
> The tall man said, 'I have not only heard it, I've seen it with my own eyes'.

The moral of this story is: Seeing is believing because we trust more what we see than what we hear or read.

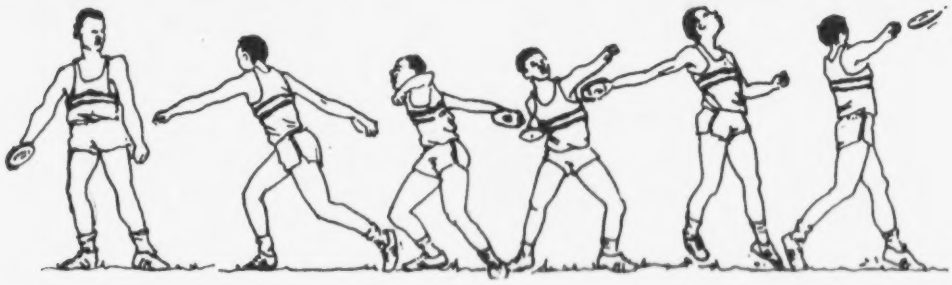
Types of Visuals Commonly Used in Distance Education

While there are many types of visuals, the most frequently used ones are described here.

Pictures

Pictures are usually line drawings which depict such things as situations, objects or people. They are simple interpretations of reality in line form.

When using pictures we should try to make them simple and avoid too many details which are not relevant to the message. Pictures could be shaded to make them look more natural but this, already, involves a complicated and expensive reproduction process. Here is an example of a simple line drawing.

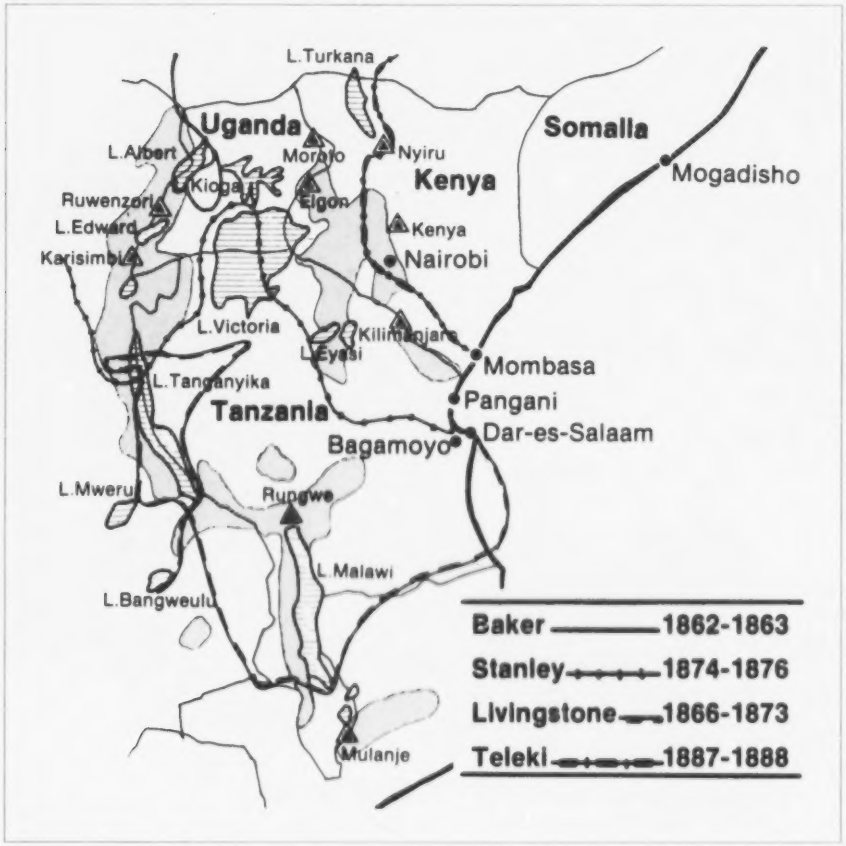


Photographs

Photographs are an exact copy of reality. We could either use black and white or colour photographs. The colour photograph imitates reality more precisely but on the other hand, it is very expensive to reproduce. It also requires special equipment such as: a camera, films, colour separation, colour print, as well as the use of specially coated paper.

Maps

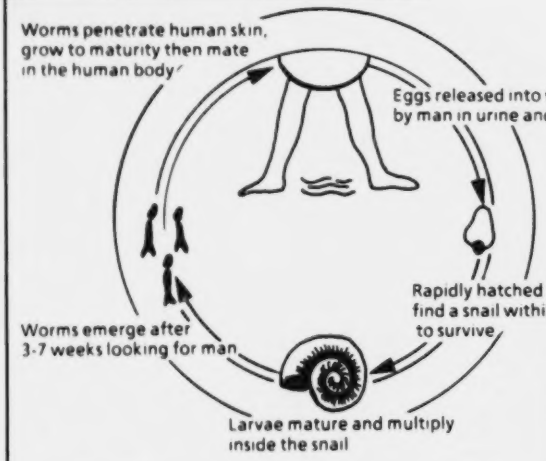
A map is a graphic description of a geographical reality on a small scale. It requires a certain level of knowledge and understanding but it is very helpful when representing places and distances.



Diagrams and graphs

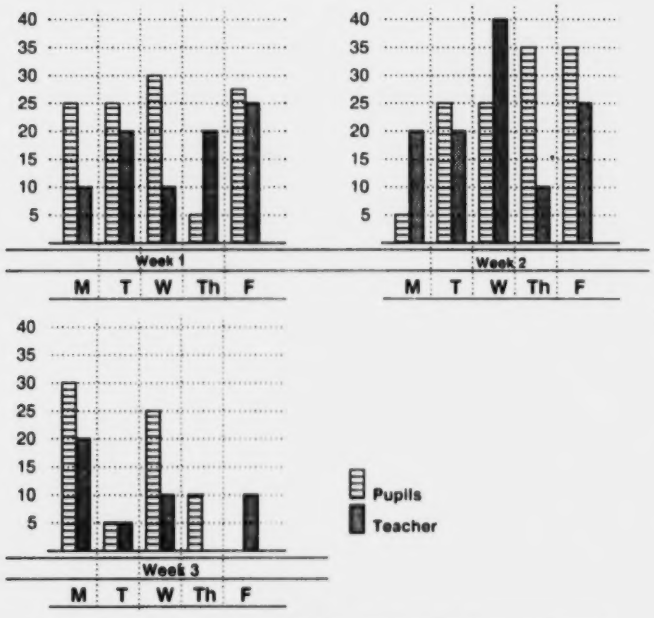
Diagrams and graphs are a graphic comparison of data. They visualize data and numbers in line form. This helps us to interpret and compare facts. Graphs and diagrams need more experience, skill and knowledge to be understood by the learners. Therefore, simplicity is the key for better communication.

The deadly cycle


Worms penetrate human skin, grow to maturity then mate in the human body
Eggs released into water by man in urine and faeces
Rapidly hatched larvae must find a snail within 26 hours to survive
Larvae mature and multiply inside the snail
Worms emerge after 3-7 weeks looking for man

The mature worm may live in man 20-30 years producing all kinds of illness from weakness and loss of weight to cancer

The schistosome needs both man and a specific kind of snail as its host at different stages in its development.
It likes shallow slow moving water.



E. After selling mandazis for some time, the girls decided to make a graph which would show how many mandazis had been sold. Use the information to help you to answer the questions that follow.

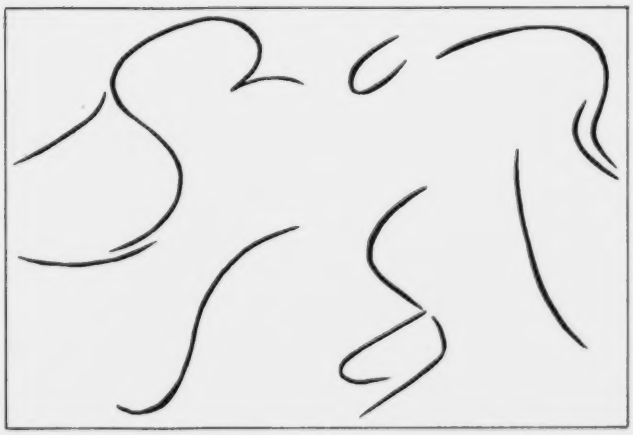
1. On which days of the first week:
   (a) did the teachers buy the most mandazis?
   (b) did the pupils buy the least mandazis?
   (c) were the most mandazis sold?

Educational games

Educational games which use visuals can form an important part of the teaching process. For example, in a language course you might include picture puzzles, word puzzles and picture stories. Look at these examples.

E R B A N A N A T R S H E A P I N G Z Y R
M T E M O S A B C E F G O C B A X W F I T
H O P A B S C H E T A P T E I S U T C H P
A M A R H D C E F A G H I P J K L E M N O
E C O F Z A A Y B X N S C A W D U Z E T F
T H O R J P R K O M N S A W B C D I G T S
S A N E P O R T C B D F G P H J K A O L M
B O I E S A O Z Y X C W V A T S R M Q P W
C U A E I H T O U H B P C W D F A G H P J
A I R U F U S W I V T I S R P T N M O L K
D N T H E R E C S H I N P G O H O T R W Z
G E G T P A K C D B W E T E N O A Y A N E
T O S A S E Z A I P L A S N I T E E N A A
M T A B N C P Y T U E P Q N O J F G G B I
S A F T G F E Z U M V P R E N K G A E C M
E B N H S I J A J P W L S O S L H B S D P
A C D G M L K B I K X E S T P M I B D E S
P T S A O B C A K I D E F C A G N A P D U
O B H H G T B R O N I S N M A N N C H A E

rice	panga	mango	banana
pumpkin	chicken	potatoes	onions
beans	sufuria	goats	tomatoes
maize	pawpaw	oranges	pineapple
carrots	cabbage	jiko	rope



What do you think this is?

In mathematics, guessing games using geometrical shapes can be included, as well as counting games.

Symbols

Symbols are graphic expressions which represent or typify an object, idea or process. Once they are properly interpreted or understood, they can explain an idea without using words.

The following symbols, for example, were developed to be used in distance education units by various institutions.

This symbol tells you that this is a written assignment. At the end of each unit (lesson) there is a written assignment which you should complete and send to your institution for marking. The written assignment usually tests your ability to apply the knowledge you have learned.

This symbol tells you that first there is an overview of the content of the unit or a list of objectives.

This symbol tells you that this is an in-text question. It is found in the text. An in-text question helps you to find out if you have understood what you have just read in the unit. An in-text question may ask you to relate what you have read to a real-life situation, or lead you to think about what is coming in the next paragraph.

This symbol tells you that there is important information relating to a certain section of the unit on the radio. Be sure to listen to it.

Which of these symbols are you using in your unit?

The Use of Visuals in Distance Education

The effective use of visuals is a distinguishing feature of any distance education course. As a writer of such materials you need to know why this is so.

Why use visuals in distance education materials?

Visuals are used because they:

- make the message clearer;
- break the monotony of print;
- help the learners to remember the information better;

- motivate the learners;
- make the printed material more attractive;
- increase attention;
- help to make learning more real;
- communicate to everybody in all languages.

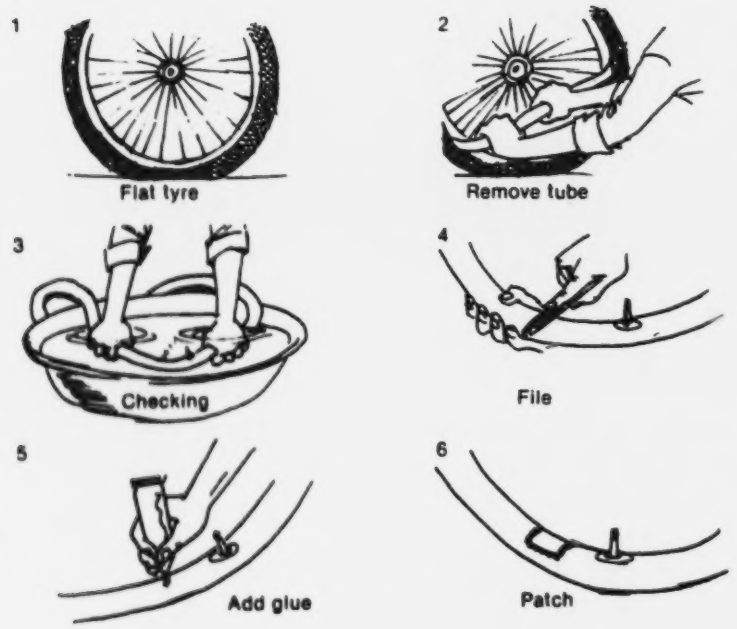
What characterizes a good visual?

Visuals are interesting in their own right but they may attract or distract the learner. Therefore you must use the right type of visual.

A good visual has the following characteristics:

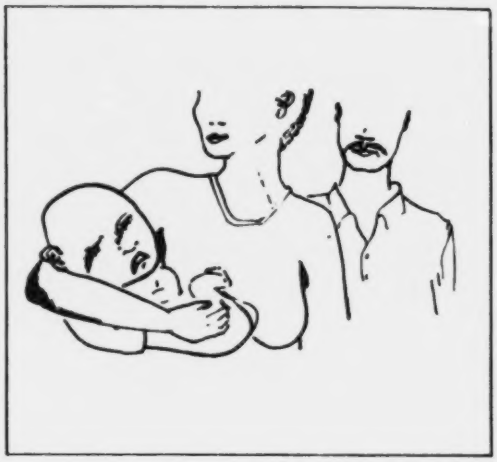
- It should be clear and simple and pass its message at a glance.
- It should be bold enough to attract attention.
- It should be next to the relevant text.
- It should have an instructional value, and not merely decorate the text.
- Graphs and tables should be self-explanatory.
- Symbols should remind the learners of things they already know and therefore be as realistic as possible. They should always be in the same place for identifying specific information.
- When illustrating a process involving separate steps there should be at least as many individual pictures as there are steps in the process.
- Visuals which represent familiar objects are more easily understood.

Look at these visuals. One illustrates a process and the other is of a familiar craft.



What is your opinion of these two visuals? Do they communicate a message?

You already know that visuals either attract or distract the learner. Look at the following visuals and see why some of them are more appropriate than others.



LESS APPROPRIATE

MORE APPROPRIATE

In comparing the two types of visuals you will most likely have noticed that some of them are not very realistic and are incomplete. The more appropriate ones are lifelike, complete and have all necessary details.

What do you need to think about when designing visuals?

The first thing you need to think about is who your learners are. This will influence how many visuals you need, their size and style.

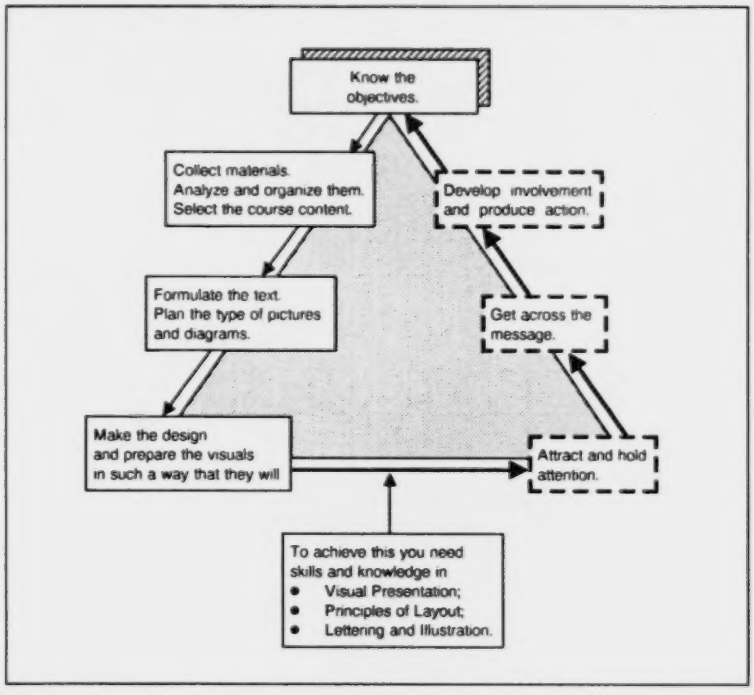
Another thing you need to think about is what resources there are. It should be obvious that each visual costs money and that some visuals are more expensive than others. For example a photograph is much more costly than a line drawing and a colour photograph is móre expensive than a black and white one. Indeed, as has already been pointed out, specialized equipment is needed for photography, colour separation and graphic reproduction. In addition the type of artists available will, to a large extent, determine the type of visuals you can include.

Lastly, think about how much time there is to produce these materials. If there is little time at your disposal, it is most likely you will have fewer visuals.

One other major consideration is the content of the distance education course that is to be illustrated. For example, science courses often require well-detailed diagrams. Geography of course requires a lot of maps. Therefore when planning visuals keep the content of the course in mind.

Once you have identified what visuals you need, think about whether or not they need captions and labels. Labelling certain illustrations helps the learner to understand them better. Captions help the learner to remember what the visuals are describing.

When planning visuals for distance education materials, the following ideas should be borne in mind.

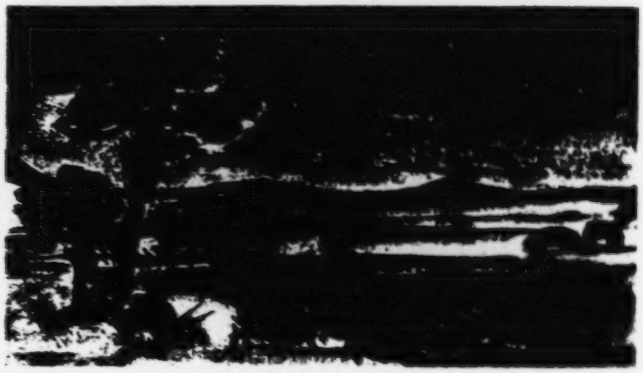

Know the objectives.
Collect materials. Analyze and organize them. Select the course content.
Develop involvement and produce action.
Formulate the text. Plan the type of pictures and diagrams.
Get across the message.
Make the design and prepare the visuals in such a way that they will
Attract and hold attention.
To achieve this you need skills and knowledge in
• Visual Presentation;
• Principles of Layout;
• Lettering and Illustration.

Please do the following self-test.

Self-test 14

There are a variety of visuals you can use in your unit. On the line under each visual write what kind of visual it is.

1. _____ 2. _____ 3. _____



4. _____

5. _____

Check your answers. We're sure they are all correct. That was quite easy, wasn't it? Please go ahead now and do the assignment.

Assignment

1. Visuals range from being very realistic such as black and white photographs to being very stylized such as symbols. Suppose you are writing a unit for an adult literacy class, comment on the suitability of each of the following illustrations for your learners.

a. **Photo with background complete**

Appropriate if background adds to the message (but here it adds nothing and confuses).

b. **Photo with background cut away or 'whited out'**

Appropriate for most adult illustrations. Subject is clearly identified. Less distracting.

c. **Shaded drawing**

Usually less appropriate because it is difficult for people to copy and because heavy shadows can be confusing. (People might wonder, "Why is the baby's neck black?")

d. **Line drawing**

Often most appropriate because it is relatively simple, yet adequately detailed. Relatively easy for people to copy for flip charts or posters.

e. **Stylized drawing**

Usually less appropriate. Simplified so much that personal quality is lost. People will not identify as much with these characters.

Taken from Helping Health Workers Learn by David Werner and Bill Bower, Hesperian Foundation, 1983.

2. Prepare an artist brief for your unit.

Checklist

Check whether or not

1. you have included all the visuals you need in your unit. ☐
2. you have prepared a detailed artist's brief. ☐
3. the visuals are clear and simple. ☐
4. the visuals pass their message at a glance. ☐
5. the visuals are bold and attractive. ☐
6. the visuals have instructional value. ☐
7. the visuals are next to the relevant text. ☐
8. graphs and tables are self-explanatory. ☐
9. illustrations of a process have all the necessary steps. ☐
10. the visuals are suitable for your learners. ☐

UNIT 9 The Editorial Process

This unit discusses:

- who an editor is;
- the role of the editor;
- the working relationship of the editor and the writer;
- the editing process;
- the role of the editor in the production process;
- the role of the editor in course maintenance and revision.

As course writers you need to be aware of how closely you need to work with the editor in order to produce effective distance education materials. You should also know that the editing process is both critical and creative. An editor examines critically the message presented by the writer and weighs the writer's use of words and pictures in communicating the message. A good editor does more. By creative design, the good editor integrates the verbal and the visual with each other, polishes words and sentences and enhances illustrations, and thereby makes the significant aspects of a message in a unit stand out.

An editor has to have both social and technical skills. The editor must have the social skills to be able to work with a writer at a personal level and be able to make suggestions to the writer without hurting the writer's ego.

An editor of distance education materials has to have some special technical skills that an editor of educational materials may not ordinarily have. Such a person has to be familiar with some of the common instructional design skills. The editor's technical skills must, of course, include both the verbal and the visual.

The editor of distance education materials should be highly experienced in writing (and judging) what we have called motivational and instructional devices (MID's) such as tests, games and simulations. This is an important part of distance education writing.

Finally, an editor must be familiar with the printing process.

What kinds of skills does an editor need?

Who Is the Editor?

In an institution which offers distance education courses, the editor is one of the most important members of staff. The editor's role is partly educational

and partly administrative but almost without exception the editor is an academic member of staff. Such a person must work either with the subject specialists or course teams who are writing distance education materials. The editor's main concern is with the teaching effectiveness of these courses and the editor assumes final responsibility for their excellence. In this regard the editor also represents the interests of the future students who will be studying the course.

An editor may be responsible for editing the materials in all subjects. In some organizations, on the other hand, a number of subject editors are appointed. The editor may work alone and be responsible for all aspects of the editing process or may work with a team of proofreaders. An editor may be in charge of design and production. On the other hand, this may be the responsibility of another department.

What are the responsibilities of the editor in your institution?

The Functions of an Editor

Although it is not always easy to describe the functions of an editor, the job usually includes some or all of the following:

- finding, briefing and training writers;
- working with writers to improve the quality of their materials by ensuring that they teach well, and that the language and instructions are clear;
- preparing materials for print and checking that they are clearly linked with other course components;
- structuring the text and checking details so that it is ready for printing;
- supervising the printing of courses;
- controlling the progress of course development.

Here is a chart which shows you the editor's functions in course development and production. The order of these jobs may change from time to time.

Stages		Editorial Job
Identify writers	☐	Selection and appointment of writers (sometimes done by administration)
Brief or train writers	☐	Done by editor alone or with a team
Plan course	☐	Editor is part of team
Make writing and production schedule	☐	Done by editor and production department
Draft sample material	☐	Advise writer
Assess sample material	☐	Organized by editor
Revise sample material	☐	Brief writer in light of assessment
Testing of sample material	☐	Organized by editor, who analyses results and reports to writer
Write all units and revise them	☐	Get drafts typed Organize assessment in course team Take part in assessment See that copyright permissions have been obtained Check availability and suitability of support materials necessary Edit Have illustrations prepared Keep writer on schedule
Final draft of unit	☐	Copy edit and mark up for typesetting
Unit typeset	☐	Keep typist to schedule
Proofreading	☐	Editor is one reader
Corrections typed	☐	Keep typist to schedule
Check correction	☐	Editor does
Make-up	☐	Advise designer Keep up to schedule
Check make-up	☐	Editor does
Print	☐	Brief printer Keep up to schedule
Check	☐	Editor does
Despatch	☐	Prepare course contents list Open file for comments and errors

The Editor and the Writer

In some organizations there are both full-time and part-time writers. The editor should have a say in the recruitment of these writers. In deciding whom to appoint the following should be considered:

- Does the writer know the subject well?
- Has the writer had any teaching experience at the level for which the person is being recruited to write?
- Has the person any writing experience?
- Does the writer have any understanding of the needs of distance learners?
- Is the writer reliable and able to keep to schedules?
- Is the writer prepared to undergo training?
- Does the writer have enough time to write?
- Will the writer be able to attend frequent meetings to discuss the work?

Once the writer has been recruited the editor needs to explain the process the institution uses for approving materials including academic vetting and drafts. The writer should also be introduced to the idea of rewriting these drafts as necessary. In an initial briefing the following points should also be raised:

- Does the writer have all the materials needed?
- Does the writer have samples of distance education materials in related subjects?
- Should the writer base the materials on an accompanying text book?
- Will the writer be able to get the material typed?

The writer also needs to be informed about the style, format, approach and methods of the course being written. The writer needs to be told about the deadlines as well.

Writers who are new to the writing of distance education materials need training. This training may be done on the job by the editor, at seminars or in workshops. Correspondence courses are also available for training, as are training manuals. All new writers should at least know the following:

- what is it like to learn at a distance;
- how to write outlines;
- the need to include activities and provide feedback;
- how to write clearly;
- how the course is administered.

Since the editor and writer will be working closely together over a long period, it is essential that a good working relationship is established. There must be mutual respect and trust, since both are working for the same end.

Once training has been completed the writer should begin on the task. Initially a lot of planning needs to be done and therefore the editor and writer should work closely together as a team. The editor will help to coordinate and facilitate the writer's efforts. The editor will also advise whenever necessary.

In helping the writer to get started the following things need to be done:

- Sample units need to be examined and discussed.
- The course outlines will be reviewed.
- An outline of the first unit will be prepared.
- The house style will be explained.
- A writing schedule will be agreed upon.
- Contact information will be collected.

Self-test 15

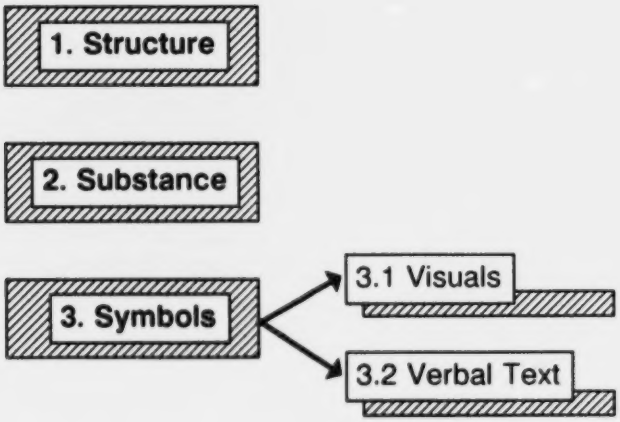
Write T if the statement is true or F if the statement is false.

1. The main task of the editor is to see that the materials are grammatically correct. ____
2. The editor of distance education materials and the editor of educational materials need exactly the same skills. ____
3. The editor and writer must work together. ____
4. All institutions should have their own house style. ____
5. Every writer should be allowed to work at his own place. ____
6. Writers of distance education materials need special training. ____
7. An editor judges the verbal content but the artist judges the visuals. ____
8. An editor must be familiar with the printing process. ____
9. An editor needs both technical and social skills. ____
10. The editor is usually an academic member of staff. ____

Check your answers. Then go on.

Helping the Writer to Improve the First Draft

Once the writer has submitted the first draft the editor checks to make sure that the unit is clear, easy to follow, and complete. A technical model for editing distance education materials is presented here:

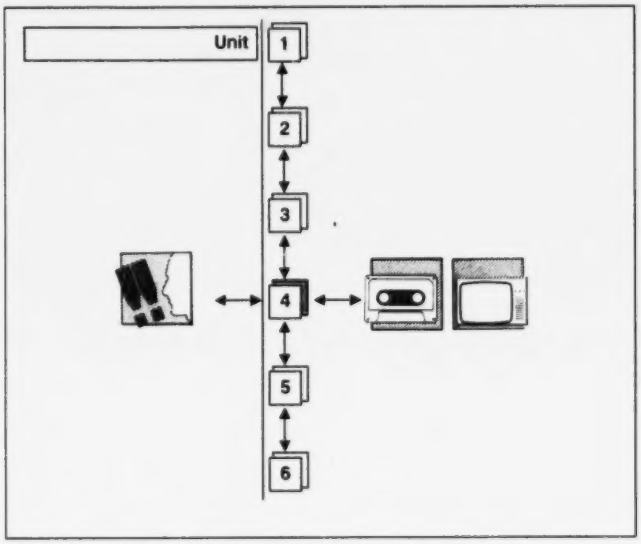


Structure

The editor should begin by examining the structure of the material. He or she must first look at the forest before looking at the trees.

The first question to be raised might be about how this unit fits in with the rest of the course, that is, with the units already completed and with the units to follow.

Does the material show clearly the vertical relationships with other units? Does the unit show horizontal relationships with other media and materials recommended by the writer?



Next the editor must check if there is a table of contents. One must be prepared, if the writer has not prepared one. The table of contents should indicate to the editor the structure of the message, the part and whole relationships and thereby the sequence of content. In addition the editor should check the number of sections and sub-sections in the unit. The editor should look inside the manuscript to count the pages allocated to each section, subsection and parts within each sub-section. There should be a reason for the space allocated to each part. Quantities do have qualities. More space can mean greater significance of the idea discussed. Did the writer actually intend that?

As part of examining the structure, the editor should see how objectives, summaries, and MID's (motivational and instructional devices) have been spread in the text. The editor should also examine connectivity and flow of ideas between sections and paragraphs.

The beginning of the unit should provide a proper stage, or a frame, and the unit should not end abruptly.

Substance

Editors should check if the material is the original work of the writer. They should make sure that due credit is given for materials lifted from other sources and that neither the writer nor the publisher get into copyright trouble. The level of discussion should be appropriate to the abilities of learners and the content should be correct.

Symbols

The editor should check for three integrations:

- integration between the visuals and verbal text;
- between the text and the tests (MID's); and
- between the text and reference materials, if any.

The editor should check to see that paragraphing is good, that is, each paragraph deals with one important idea. Lists as written in the text, should have no hidden categories or conceptualizations. Tables and graphs should be drawn correctly.

Sentences should not be empty. There should be enough information in each sentence or paragraph to stimulate thinking and to promote analysis and inference on the part of the reader. There should be some logic to the sequence of clauses in sentences and among sentences and this logic should be clear to the reader. Proper cues should be used to help the reader anticipate important ideas or shifts in the argument.

Whenever possible, there should be a uniform format in the presentation of examples. Standard abbreviations should be used.

Due attention should be paid to punctuation and spellings.

Editing MID's

The editor should ask these questions:

- What is the motivational or instructional objective that the writer has in mind?
- Is that objective being fulfilled?
- Could that objective have been fulfilled better in another way?

The editor must see if the questions asked are answerable and instructions given can indeed be followed. Editors should work out the answers to various questions themselves and then make sure that they are correct.

Editing the language

More needs to be said about this since much of an editor's time is spent on improving the language the writer has used. Improving the language can make the text more attractive and easy to follow.

There are two tests which the editor can apply to assess the language level. These are

- The Cloze Test
- The Modified Fog Index (MFI)

You'll learn more about these in an editor's workshop.

The editor can also assess the difficulty of the text by identifying difficult vocabulary and complex sentence structures. You already know what to check from your study of Unit 5.

The editor should also check whether prose is being used in the right place or if a diagram, map or table would be better.

The editor should check whether or not the text is dull. There must be some variety in the presentation and format. To do this the writer should include:

- a variety of exercises;
- reading assignments;
- quick checks;
- in-text questions;
- project work;
- pictures;
- charts;
- change in the layout.

For more information about this refer to Unit 6.

126

Group Editing and Self-editing

One of the best ways to do what has just been discussed is to do group editing. Writers can sit in groups of 3 to 5 people with one resource person and edit the unit in terms of its structure, substance and symbols. This is first done by going through the unit to look at its structure. Then the group needs to read the unit line-by-line to check the substance and edit the visuals and verbal text. Unit 10 has more information on this. The writer of the unit must keep very clear and accurate notes of what has been discussed and agreed upon. It is at this point that the writer can also incorporate the results of the pretesting. It is important that during group editing, good human relations must be maintained so that neither the writer nor the editor becomes defensive. The other writers in the group should learn a lot from this process which they can apply to their own units.

Ultimately, however, writers must become their own editors. They must learn to do self-editing and give their institutions manuscripts that require minimal editorial work on them. It is hoped that the experience of group editing will teach the necessary skills they need for editing their own materials.

After the writer has made all these changes, the unit goes for a first typing. It is then proofread and corrected.

Copy Editing

After all the substantive editing just discussed has been done, the editor is ready to prepare the unit for production. To do this the editor needs to do copy editing which involves the following tasks:

- editing the typed unit so that it is ready to print;
- marking up the unit with instructions for the typist.

When editors are marking up the unit, they use what are commonly known as proofreader's marks. Here are the most commonly used ones:

Mark in the left margin	Mark in text	Meaning
and ⸗ ⸗	tea ⸗ sugar	insert, (for apostrophe and quotation marks)
⁀	sweet	delete and close up
⁀	wa ⁀ ter	close up
ℊ	milk	delete
⌐	The	no indent
⌐	The	indent
e/	coffe	replace letter
⁀	less ⁀ space	less space
⊤	more space	more space
⊙/	text / If	insert punctuation
≠	text / , Or	lower case
∩	h q e	reverse order
⊤	the	capital letter
run on	of material. Pick out any	join paragraphs together
stet	Use separate	leave as typed (if corrected wrongly)
n.p.		new paragraph

Here is an example of a marked-up page from a science unit.

caps

HOW TOO MAKE A compass

There are two comon kinds of magnet: the U-shaped one and the straight one, often called a bar magnt. The bar magnet is the best type to use for making a compass, and I want to explain a few things about types of magnet before telling you how to make the actual compass.

The ends of a magnet where the attracting force is strongest, are called the poles, the middle of the bar has no attracting force at all it is not magnetic If you hang the bar so that it can swing freely, it will always come to rest pointing North-South. The end which points to the North is the north pole of the magnet; the opposite end is the South Pole. Now we'll start on the compass itself. First of all, we need to make a magnetic needle. Put an ordinary steel sewing needle (a fairly long one if possible) down on a flat surface. Then stroke the needle at least ten times in succession with one pole of the bar magnet. after each stroke careful lift the magnet clear of the needle and bring it back to the starting point ready for the next stroke. After about ten ~~ten~~ strokes the needle will be magnetized (but you may wish to give a few extra stroke to just make sure).

The very simplest way to make this magnetized needle act as a compass needle is to lay it carefully on a saucer of water. Although steel is heavier than water, the steel needle will float because of the 'surface tension' of water: water acts as if it had a 'skin' which is not broken if the needle is laid on the surface very gently. The needle is now free to float round until it points in a North- South direction.

The compass we are going to make will be a little more elaborate, however. To make it, you will need a round slice of cork about half an inch thick, and at least as big as the face of a mans wrist watch.

You will also need a round disc about eight centimeters in diameter, cut from a peace of white paper or card.

Lay the cork down on the desk and push the needle through it along a diameter until the point appears. Then, from the centre of your white disc, draw two lines which should all touch the edge of the disc) draw a small arrow-head and write 'North' beside it. At the opposite end of this line write 'South.

Role of the Editor in Production and Printing

Once the editor has marked up the unit for further typing it needs to be turned into a final draft or go for typesetting. The following chart shows the editor's role in the production process which follows next.

Job		Editor's role
Typesetting	-	Supervise typist as needed
Illustration and artwork prepared	-	Brief artist, check drawings
Typing finished	-	Proofread
Corrections typed	-	
Corrections checked	-	Editor does
Further corrections typed	-	
Corrections checked (and so on, until all errors retyped)	-	
Pages made up	-	Editor does
Pages checked	-	
Pages corrected	-	
Pages checked	-	Editor does
Final check: Pass for printing	-	Editor does
Printing	-	
Copies checked	-	Editor does

There are many stages in this process and the editor should check each one.

Course Maintenance and Revision

Editors must make sure that a course is kept up-to-date in light of curriculum changes. They also have to correct any errors that may have slipped through and supervise the revision of courses that have proved to be too difficult or unsatisfactory. This means the editors must:

- encourage learners to give feedback on the units they are studying;
- request tutors to give feedback;
- notice any errors;

- get the writers to study the unit once more;
- advise the institution to periodically assess the materials;
- keep track of the curriculum and exam syllabus changes;
- update units in light of changes in national and world events;
- tell the storeman to inform them of low stocks so that corrections and changes can be inserted before reprinting;
- revise courses periodically.

What is the role of the editor in your institution in the production process and in course maintenance?

You can see that in an institution which offers distance education courses, it would not be possible to produce such courses if it weren't for the crucial involvement of the editor. You should also be aware that the editorial process is a lengthy, tedious and time-consuming one.

Self-test 16

Write the answers to these questions.

1. The three components of the technical model for editing distance education materials are:
   _____, _____ and _____ .
2. When you edit symbols you must check _____ and _____ .
3. A unit must have both _____ and _____ relationships with other units, media and materials.
4. The table of contents shows the editor the _____ of the message as well as the _____ of the content.
5. Writers must give _____ for materials used from other sources.
6. The editor should check that there is a _____ format.
7. The best way to check the answers to questions is to answer them _____ .
8. A recommended method of editing units in a workshop is to do _____ _____.
9. Every writer must learn to do _____ _____ .
10. When a typed unit is being given its final editing we say it is being _____ _____ .

Now check your answers. Then go on and do the checklist.

Checklist

Answer the following questions by putting a tick beside each of the things you have done.

1. Is the structure of the unit suitable?
   - The unit as a whole fulfills the stated objectives. ☐
   - There is a balance of content, not too much or too little material. ☐
   - There is no rambling or irrelevant sections. ☐
   - Central concepts, terms and technical words are clearly defined. ☐
   - All materials taken from other sources have been acknowledged and permission to use them has been granted. ☐
   - The unit has been written at the right level. ☐
2. Is the introduction complete? Does it have:
   - unit objectives? ☐
   - an introduction to the topic? ☐
   - links with other units? ☐
   - advice on how to study the unit? ☐
3. Is the body of the unit well-written?
   - Does it present new materials followed by sufficient varied activities? ☐
   - Is it divided into sections with clear headings and links? ☐
   - Is the material presented in a logical sequence? ☐
   - Are there necessary cross-references? ☐
4. Does the ending of the unit have everything it should?
   - Is there a summary? ☐
   - Is there a checklist of activities done? ☐
   - Is there a written assignment? ☐
   - Are there answers to the self-test? ☐
   - Is there a glossary if necessary? ☐
   - Are the instructions clear throughout the unit? ☐
   - Is there a separate but complete marking scheme for the written assignment? ☐

Assignment

1. Do substantive editing on these two passages.

A To enhance positive attitudes towards our cultural heritage

As we have seen in the first part of this section the western influence in our country have made some of our people to look down upon indigenous cultural practices. In some instances children are not knowledgeable of their home backgrounds and this has produced weakened family system. It is therefore the responsibility of adults who are custodians of their culture to ensure that positive attitudes are incalcated to the children. To be able to do this adults themselves must have positive attitudes towards their culture. Adult education programmes can encourage this attitude through promotion of cultural activities such as traditional dancing, documenting forkrole among other activities. Literacy learners can also be encouraged to take part in the cultural festivals organized by the department of culture.

B What are group norms?

Different people describe group norms in a number of ways. They all seem to agree that in norms there must be standards. Even various dictionaries also include standards in their definitions of norms. Also norm is the pattern of relationships between the group members. Therefore group norms are standards and patterns of relationships. Groups develop rules and regulations to maintain those standard and to help group promote interpersonal relations.

Where group norms come about in a kind of or as a result of working agreement, the group is always able to reach at joint solutions to problems in both work and socially.

In small social groups, norms include shared ways of behaviour, shared attitudes and beliefs, shared ways of feeling and perceiving (ways of seeing things), particularly in relation to the activity or task.

Do group norms have functions in the group? Group norms help the group to function effectively because there has to be a certain amount of agreement on how to do things. There are norms about work which spell out the best and the easiest methods of working. Others indicate how hard and how long, what standard of performance, in order to sustain high level of out put. This helps individual members to aim high.

---

2. Do copy editing of this passage

A Social Conventions

In our previous section, we dealt with the meanings of the terms, virteus, valeus and ideels. We also discussed the

effects of virtues, valeus and ideas on Human Relation. In this section, we are going deal with the meaning of socil conventions and how social conventions influence our relation with other people Let's begin with the definition of Socil Conventions.

Definition of Social Conventions

Social conventions are hte rules of go od behaviour, conduct and courtesy controlling social life within a community. Social conventions concern themselves with such basic aspects of lief as sexual Conduct propriety, respect and so on. When we accept and adopt a community's conventions, we make ourselves acceptable To its members. conforming to conventions also entitles us to benefit from the community

favours. Breaking social conventions

is not punishable by law. However, truning away from the established conventions of a community is almost sure way to be ostracized. this is because social rules govern those interpersonal re lations to which great importance is attached.

Just like some other aspects of our culture, social rules vary considerably from one ethnic group to other

even among neighbouring poppulations.

B Copy edit a page of your pre-tested unit. Share it with your group.

UNIT 10 Practical Aspects of Pre-testing Distance Education Materials

This unit is about:

- why you need to pre-test;
- what needs to be pre-tested;
- who you can get data from;
- how to develop a pre-test;
- the type of questions you need to ask;
- how to administer a pre-test;
- how to use pre-test results.

Pre-testing is an integral part of any materials production programme. It provides useful information on what should be improved so that the materials written may meet the objectives for which they were developed.

Why Pre-test?

One of the most important reasons why distance education materials should be pre-tested is to determine how suitable they are. They need to meet the needs of the learners, the course objectives and be relevant to the social context in which the learners are living. Moreover, if they are both relevant and suitable they are most likely to be useful. Of course you must also determine if the materials have up-to-date and accurate information. Another reason for pre-testing materials is to find out how interesting and motivating they are. In fact, there are many more reasons why we pre-test educational materials. We shall discuss some of these in the following section.

What to Pre-test

Much of what needs to be pre-tested you have already learned about in earlier chapters of this handbook. Here we would like to highlight some of the main aspects.

All distance education materials contain two main parts. As you already know they are the verbal and the visual.

Pre-testing the visual elements

Just by looking quickly through a unit, at a glance you can check a number of things even without reading the content. For example, all of the following can be looked at in this way:

- illustrations, number and type;
- the table of contents;
- heading scheme;
- sections, sufficient and balanced;
- activities, number and variety;
- symbols;
- format and layout;
- typeface and typesizes;
- highlighting, bullets, boxes, bold;
- length;
- attractiveness;
- paging, numbering and ordering;
- cover, essential information and durability;
- written assignment.

Questions about all of these items need to be included when you are pre-testing.

Pre-testing the verbal elements

Unlike the visual elements, the verbal elements need to be read in detail in order to be thoroughly checked. Here are the things you need to get feedback on when pre-testing your unit.

Language: One of the first things that needs to be determined is how difficult the language is. This includes looking at vocabulary, sentence and paragraph length, sentence structure and the use of the active voice. In fact, all the grammar must be examined. Accurate spelling, as well as correct and sufficient punctuation also help to make the text more readable. Links with previous units in the course and bridges between sections and paragraphs within the unit are very important. Remember also to see whether or not advance organizers are built into the text.

What questions should you ask about the language?

Content: A close examination of the content should reveal the difficulty of the concepts and information which is being presented. Clear ordering and sequencing of the content, as well as ample relevant examples, help to make the text more easily understood. Moreover, it is important to find out what new information the learners are getting and if it is too shallow. It should also

be obvious that pre-testing will reveal if all the objectives are covered and whether or not there is any missing matter.

Checking the content also includes how well active learning has been incorporated into the text. For example all self-tests, assignments, illustrations, summaries, among others, need to be read for accuracy, clarity and instructional value.

What questions should you ask about the content?

Who to Get an Opinion from

There are different groups of people who can give you feedback about the unit. First of all there are the experts. Experts are of two kinds. There are subject-content experts and there are distance education experts. Your unit should be pre-tested with both types of experts. The former group will tell you whether your unit is accurate, up-to-date and follows the set syllabus. The latter group will tell you if your unit is set out in a distance education format, has an appropriate assignment, and is easy to be read and understood by learners who are studying at a distance.

The second group of people who can give you feedback about the unit are your peers. These are the people with whom you work. Even if they are not subject-content experts or distance education specialists, they can still give you valuable feedback on:

- the language level;
- the relevance of the examples;
- the difficulty of the concepts;
- the general presentation of the material.

The third group are the learners themselves. These are the people for whom you have written the unit. They are the consumers of the materials. These may be:

- in-service teachers;
- health workers;
- co-operative employees;
- farmers;
- adults who are studying academic subjects.

Who is your unit written for? Does it meet the needs of these learners?

Usually each of these groups requires a different pre-testing instrument or method of collecting information.

How Do We Pre-test?

Once you have identified the people who will give you feedback on the unit, you now need to say exactly who they are and how many will be involved in the pre-testing. There is no need to limit the number of experts since they are usually very few. If your institution or organization is a large one you may want to use only a certain number of your peers. Remember to select a representative sample. There should be at least one from each of the following areas:

- distance education;
- subject content;
- male and female colleagues;
- older and younger colleagues;
- long-serving staff members and newcomers.

How many learners you have will determine whether or not you need to select a sample. Again this should be representative. Therefore you need learners who are:

- from all parts of the country;
- from various age groups;
- both married and single;
- of varied socio-economic backgrounds.

Given the nature of the materials you are writing, a sample size between 10–30 is acceptable.

You already know that your sample is composed of different groups of people. This will help you to identify the most suitable pre-testing method to use with each group. The following four methods have been found to be most suitable.

Interview

This is a set of oral questions which you have carefully prepared ahead of time to ask people in your sample. It is a good idea to write down their responses or record them on a tape. This is an especially useful method for busy people like headmasters and school inspectors, who may not find time to fill in a questionnaire. However, if you have ample time this method may be used with all three groups.

Questionnaire

This is a set of written questions which you have carefully prepared ahead of time and which you ask the people in your sample to write the answers to. A questionnaire is usually much more carefully structured than an inter-

view. On the other hand, in an interview you have a chance to seek further explanations when something is not clear.

Remember that a questionnaire can only be used with literate people.

Keep your questionnaire within 2–4 pages since anything longer may not be answered. A questionnaire can be used with all three groups. Here is an example of such a questionnaire.

Questionnaire for Tutors at Elimis College on unit on cooperative knowledge

---

Please, comment on the size of the unit,

1.a. _____

_____

_____

Does the size accommodate illustrations and text display appropriately?

b. _____

Is the unit easy to handle?

c. _____

State the criteria you have used in making your comments on the size of the unit.

d. _____

Is the type size appropriate for adult readers?

2. _____

Is there enough spacing between words and sentences?

3. _____

Does the title of the unit describe it correctly?

4.a. _____

Is the title attractive and intriguing?

b. _____

Is the illustration used on the cover page appropriate and eye catching?

c. _____

Is the typeface and type size used on the cover page appropriate?

d. _____

Why do you think, the unit is appropriate for the intended learners?

5. _____

Is the unit self-contained?

6.a. _____

Is the presentation of the content logically arranged?
If no, explain why not.

b. _____

_____

_____

_____

Does the content meet the needs of potential readers?

7.a. _____

Are the concepts well explained? If no, why not?

b. _____

Is the content accurate? If no, please correct.

c. _____

_____

How readable is the unit?

8.a. _____

Is the vocabular used familiar?

b. _____

_____

Are the section headings appropriate?

9. _____

_____

Underline incorrect spelling in the text.

10.a. _____

Circle errors of punctuation in the text.

b. _____

_____

What is your overall impression of the unit?

11. _____

_____

_____

_____

Tests

This measures how well the learners have understood the content. The test should cover all parts of the unit and be clear and precise. It is advisable not to make the test longer than one hour. Although you should show the test to your colleagues in order to get feedback on its suitability, it is of course intended for your learners.

Work and discussion group

In this method a group of peers or learners should sit together, go through and study the unit and then discuss its strengths, as well as its weaknesses, with you. If you choose to use this method you should prepare a set of questions which will be used to guide the discussion. Someone in the group should keep accurate notes of the discussion. You may be surprised at the unexpected results you often get when using this method.

Whichever method you choose, you must make sure that the unit you are pre-testing is as close to its final shape as possible.

The unit should have the necessary illustrations, the typeface that will be used and all the parts that are required in the unit to make it complete. Moreover, once you have designed your instrument or the method you are going to use, pre-test it before finalizing it.

Examples of Good and Bad Questions

Let us now look at some examples of good and bad questions. These questions are grouped into three categories:

A. those that give very little information or information that is dead-on-arrival;

B. those that give a little information that may be of some use;

C. those that give very useful information.

Here are examples of questions in category A.

Here are examples of questions in category B.

Finally, here are examples of questions in category C.

[redacted]

At an interview with experts or peers you might ask the following questions to do with readability. These will also give you very useful information.

- Is the unit within the reading level of those for whom it is intended?
- Are the sentences short?
- Is the vocabulary used familiar?
- Are the new words presented with context clues, or otherwise explained?
- Are words repeated appropriately?
- Is the local idiom and style used?
- Is the syntax and structure natural?

What kinds of questions have you thought of for your pre-test?

You now have some idea about the kinds of people and methods to use for pre-testing. Let's now consider how to administer such a test.

How to Prepare and Administer a Pre-test

There are quite a number of things you must do before you can go out to administer a pre-test. The following checklist should help you to find out whether you are ready or not.

- ☐ Have you obtained permission to do pre-testing?
- ☐ Have you taken time to explain to your peers why you need their co-operation in this exercise?
- ☐ Did you pilot test and amend your questions and subsequently get them typed?
- ☐ Have you made sufficient copies of the unit and questionnaire if you are using one?
- ☐ Have you informed the people in your sample in writing when and where the pre-testing will take place?

- ☐ Have you arranged transport and accommodation if necessary?
- ☐ If your pre-testing requires financial support have you arranged for this?
- ☐ If you are administering your questionnaire or test through the post, have you written a covering letter explaining the purpose of the pre-testing exercise?

If a covering letter is attached to a questionnaire or test it must contain very clear instruction about how it is to be done.

- ☐ Have you informed the people in the sample that the pre-testing exercise will take between 5 and 7 hours?
- ☐ Have you properly trained any assistants you may require to help you to do the pre-testing?
- ☐ If you are planning to send out any of your pre-testing materials, have you done this in good time?
- ☐ Have you established a coding system for your pre-testing materials?

If you or your assistants are administering the pre-test, as opposed to getting data through the post, then there are certain things you must do.

First of all, on the day of the pre-test, you should arrive at the centre well ahead of the scheduled time in order to ensure that there are sufficient tables and chairs properly arranged. This will give you a chance to welcome the people in your sample as they arrive. You should also check that you have enough copies of the units, the questions and an extra supply of stationery.

Next you should establish a warm, friendly, working climate. This can be done by:

- giving a word of welcome;
- brief introductions;
- explaining the purpose of the pre-test and the need for the respondents' co-operation;
- educating them about the nature of the materials being pre-tested;
- distributing the units and questionnaires, if any, and going through the instructions;
- reminding them of the time limits;
- assuring them of your presence during the pre-test in case they have any difficulties;
- thanking them for taking part in the exercise.

In case you are using an interview or holding a discussion, you need to ensure that good, accurate records are kept.

What Do You Do with the Pre-test Results?

All the data you get from the pre-testing must be converted into usable information. This can be done in a number of ways. First of all, you can tally responses and work out percentages. For example, if your learner sample was 30, the tally and percentage for the following question would be:

5. 'Is the language used appropriate to the learners?'

Yes	//// //// //// //// ///	= 23 (76.7%)
No	//// //	= 7 (23.3%)

If no, give reasons.

You can also analyse the data. For example the analysis for the reasons why the language was inappropriate might have been as follows.

Reasons given by the seven respondents:

– Technical words not explained	//	= 2
– Vocabulary too difficult	////	= 4
– Some sentences confusing	/	= 1

Then you may interpret this information by noting that there is a problem with the language since 23% of the respondents said so. You would be well-advised to check the vocabulary and use simpler words. If there are any technical words make sure you explain them.

Each item should be subjected to this treatment.

Once you have all this information you should use it to improve your unit. Some of the improvements may be quick and easy to do. Others may take a longer time. Among the easily fixed items are:

- spelling corrections;
- correcting typing errors;

- explaining difficult words;
- shortening long sentences;
- numbering properly;
- correcting captions and labels;
- making small changes on illustrations;
- correcting grammar and punctuation mistakes;
- giving the correct answers to questions;
- improving headings.

The improvements that would take a longer time to correct include:

- simplifying the content;
- adding new content;
- reorganizing the sections of the unit;
- rewriting paragraphs;
- preparing new illustrations;
- making a new assignment or self-test;
- adding in-text questions or new objectives.

Once all the improvements have been incorporated, and if there is time, you should pre-test the unit again.

In conclusion, we would like to point out that pre-testing is not always possible, though desirable. It is, however, particularly important in developing basic educational materials.

Self-test 17

Match each word with its meaning by writing the correct number after the word.

pre-test	_____	1.	a set of oral questions
sample	_____	2.	a set of exercises to measure understanding of the content
peers	_____	3.	the total number of people used in a pre-test
interview	_____	4.	a small number of people who sit together and evaluate the unit
questionnaire	_____	5.	totalling the number of responses
test	_____	6.	interpreting the data
discussion group	_____	7.	a person who gives feedback
to tally	_____	8.	a set of written questions

to analyse	_____	9.	a method to determine the suitability of a unit
respondent	_____	10.	your colleagues

Check your answers. That was easy, wasn't it?

Checklist

Have you determined all of the following about your pre-test?

1. What you will pre-test. ☐
2. The groups of people in your sample. ☐
3. The size of your sample. ☐
4. The method you will use to pre-test. ☐
5. The type of questions you will ask. ☐
6. How you will administer the pre-test. ☐
7. Where you will administer the pre-test. ☐
8. How you will analyze the data. ☐
9. How you will use the data to improve your unit. ☐
10. Who else will use the data. ☐

Assignment

1. Improve the following questionnaire for learners.

Question 1: The language of these units is
- very easy _____
- easy _____
- difficult _____
- very difficult _____

Question 2: How do you find the material you have read?
- very useful _____
- useful _____
- not useful _____

Question 3: If not useful, please say why.

Question 4: Have you learnt anything new in these units?
- Yes _____
- No _____

Question 5: Are the materials in these units of interest to you?
- Yes _____
- No _____

Question 6: The self-tests given in these units are:

- very easy _____
- easy _____
- difficult _____
- very difficult _____

Question 7: Are the instructions given in the written assignments clear?

- very clear _____
- clear _____
- not clear _____

2. Determine the method you will use to pre-test your unit and develop your questions. Share these questions with your group.

UNIT 11 The Printing Process

This unit discusses:

- the various printing processes;
- how to decide which method of printing to use;
- the main tasks involved in printing.

Printing is the end stage of the production of distance education materials. It determines how attractive and effective the materials are and, therefore, how well they are received. The quality of paper, of course, will also determine how durable and appealing the materials are.

By definition, printing is a means of transferring ink impressions from a press plate to paper, metal or other material. A knowledge of the printing process is essential to help writers understand what work they can do.

Writers should be able to follow up the printing process and be involved at several important stages. They should proofread the text carefully, follow the typing and the typesetting, make corrections and proofread it again after retyping and having it pasted into pages (paste-up or make-up).

Therefore writers should be familiar with the whole process of printing and know where and when problems could arise in order to overcome them.

Printing methods vary from place to place according to local conditions and the equipment available. The methods you choose depend on:

- the number of copies required;
- the objectives and nature of the content;
- the resources at your disposal.

Think about these points in regard to your unit.

What Are the Different Methods of Printing?

The method of printing you choose is determined by the number of copies you need. For small quantities you can use any of the following methods:

- photocopying
- block printing
- silk screening
- mimeographing (stencil duplicating).

How do these methods differ from one another?

However, you should note that these methods are often not used in producing distance education materials because they are not cost-effective. Distance education materials are usually disseminated amongst a large group of learners.

When printing many copies, specialized printing equipment and methods are required. The most common printing processes are the:

- letter press
- offset litho
- gravure

Letter press printing

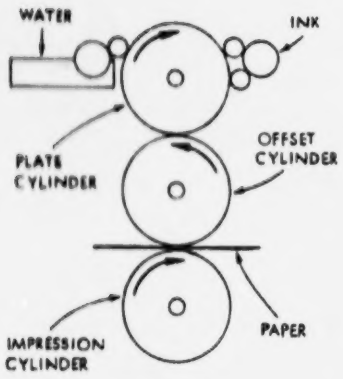
A letter press, as its name suggests, presses the inked plate and the paper together. The letter press plate has a rough printing area, on which the letters are raised.

This type of printing is widely used to produce newspapers, magazines and journals because the metal types are the most economical and convenient for printing textual matter.

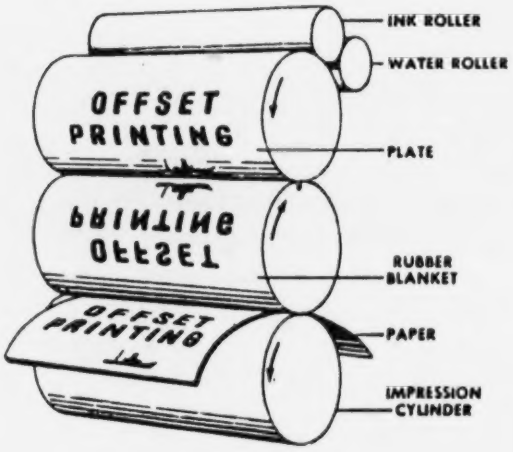
Offset lithography

In lithography the press plate used is smooth. Both the printing and nonprinting areas are on the same level. Lithography is based on the principle that oil (printing ink) and water do not mix. Look at the picture and identify the plate cylinder. This is alternately dampened and inked. Water repels ink from the nonprinting areas. The printing areas of the plate take ink from an inking roller.

Ink is transferred from the flat surface of the printing plate to a rubber 'blanket' or offset cylinder, which transfers the image to paper on an impression cylinder. Find these two cylinders in the picture. Such printing is called 'offset' printing because the image is picked up from a second cylinder onto which it has been offset, instead of from the plate cylinder directly to the paper. The offset printing plates may be made from either thin grained metals, usually aluminium, or from plastic or paper.



Side view of offset printing



Principle of offset printing

Offset litho printing is probably the most convenient process for reproducing black and white and coloured illustrations.

Gravure printing

Besides relief (letter press) and plane surface (lithography) processes, printers also use gravure. A gravure plate is the reverse of a letter press plate since letter press prints from a raised design and gravure from a depressed design.

The commercial method used today is photogravure, because the original material is photographically transferred to a metal surface where acid eats away the design, leaving a depressed pattern of tiny pits.

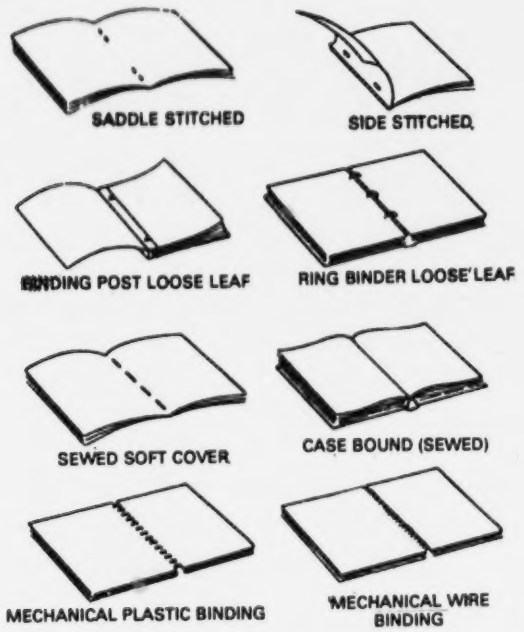
Nearly all gravure printing is done on rotary presses on which the gravure surface is part of a cylinder. To print, a thin ink is applied to the whole design, filling the pits and covering the surface.

What is the difference between gravure printing and letterpress printing?

What Are the Main Tasks Involved in Printing?

Work in a typical printing workshop is divided into four main areas. The first part of the work is done in the composing room. This is where the type is set and the final layout is prepared. After this the work goes for filming and plate making if that is the method being used. Then the work goes to the pressroom where it is actually printed. Lastly, the printed pages are taken to the binding department. Here there are machines for cutting, folding, gathering and stitching the pages.

Types of binding commonly used today are shown here. Most publications up to 96 pages are saddle stitched. Two or three staples are machine stitched through the 'saddle' or fold in the center. This is fast and economical, and enables the pages to lie flat when opened. Covers of the same paper, or heavier paper may be used.



Basic types of binding

At this point you may be interested to know that two other methods of materials production are becoming more common. These are the use of processors and desk top publishing methods which involve the use of computers.
Two main advantages of these methods are the ease with which changes and corrections can be made and the flexibility in designing layout and format.

Self-test 18

Circle the letter of the best answer.

1. Printing is
   - A the best way to finish a unit.
   - B determined by the quality of paper.
   - C a means of determining the quality of production of the materials.
   - D the end stage of the production process.

2. The methods of printing you choose depend on all of the following except
   - A the objectives and nature of the content.
   - B how well your learners can read.
   - C resources at your disposal.
   - D the number of copies required.

3. You need to print 6000 copies of a unit. Which one of these methods is the best to use when you need to print so many copies?
   - A letter press printing
   - B block printing
   - C silk screening
   - D stencil duplicating

4. Which printing method uses raised letters?
   - A photocopying
   - B gravure printing
   - C letter press printing
   - D offset lithography

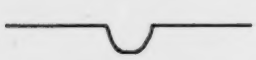
5. Which method of printing uses the principle 'oil and water do not mix'?
   - A silk screening
   - B offset lithography
   - C mimeographing
   - D gravure printing

6. Which one of the following would you associate with photogravure?

A

B

C

D 

7. What work is done in the composing room?

A The type is set and the final layout is prepared.

B The writer prepares the final draft of the unit.

C The printing is done.

D The binding is done.

8. You want to bind a 23 page unit. Which method should you use?

A side stitch

B mechanical wire

C saddle stitch

D case binding.

Check your answers. We hope you did well.

Checklist

When you return to your institution, check the following.

1. How many copies of the unit are required? ☐
2. What sort of paper is available for printing? ☐
3. What kind of paper is used for the cover? ☐
4. Which printing method is used? ☐
5. Which printing press is used? ☐
6. How does it work? ☐
7. How is the quality of the printed materials? ☐
8. How are the illustrations prepared for printing? ☐
9. What is the quality of the printed illustrations like? ☐
10. Which method of binding is used? ☐

Assignment

1. **Complete the following table by filling in the blanks with 'yes', 'no' or 'satisfactory'.**

	Photo-copying	Mimeo-graphing	Letter Press	Offsetlitho: metal plates	Offsetlitho: paper plates
good for many copies					
good for few copies					
high quality text					
good line drawings					
good photographs					
many possible typefaces					
initial high costs					
skilled technicians needed					
labour intensive					

2. **Discuss the answers with your group and give reasons for your answers.**

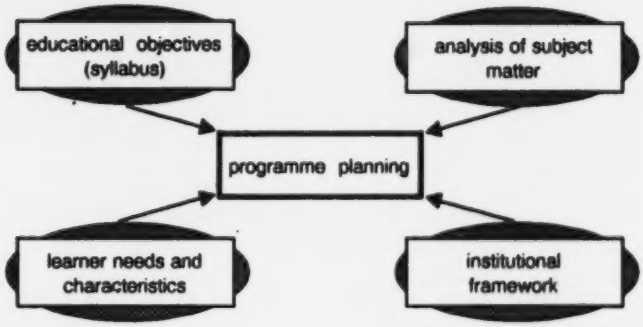
UNIT 12 A Summary of Course Development from Planning to Printing

In this unit you will summarize:

- how to plan a course;
- the main parts of a unit;
- the importance of pre-testing;
- how to provide tutorial support;
- when to print and dispatch the units.

Programme Planning

You should remember that when you are planning a course, there are four main things you need to consider.



Course Planning

In course planning you need to make decisions about the following:

- the course title
- the target group
- the aims and objectives of the course
- the content of the course
- the teaching strategies
- assessment methods
- the study time needed
- resource materials.

These are not the only things you need to make decisions about.

Unit Planning

To help you recall the main parts of a unit, look at this list. Each unit should have

- a title
- a table of contents
- an introduction
- a list of objectives
- study notes on the subject matter
- activities
- an assignment
- symbols and illustrations.

Have you planned and written all of these for your unit?

Pre-testing the Unit

You should remember why it is important to pre-test your unit. The groups of people who can give you valuable feedback about your unit are:

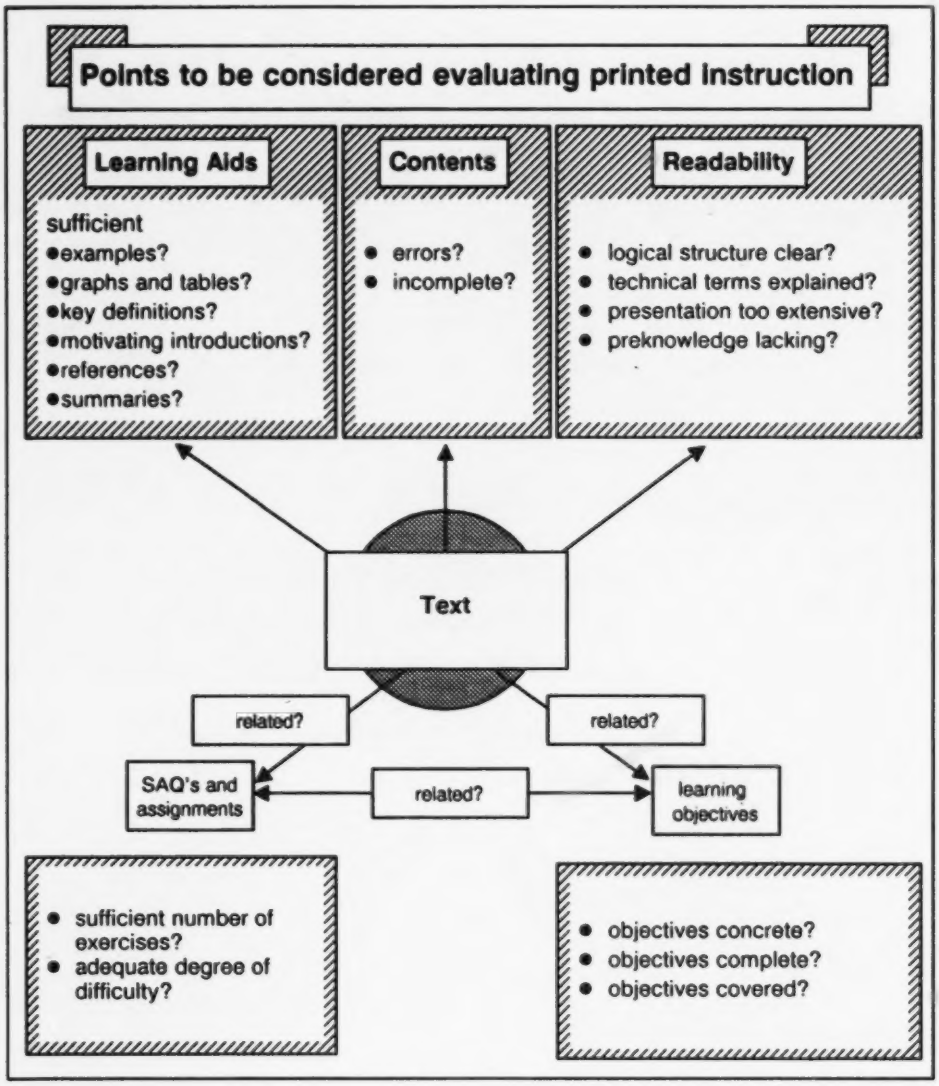
- experts
- peers
- learners

What two types of experts are there?

There are a number of methods you can use to get feedback. These include:

- interviews
- questionnaires
- tests
- group discussions

No matter which method you use, you need to ask questions about the following points.



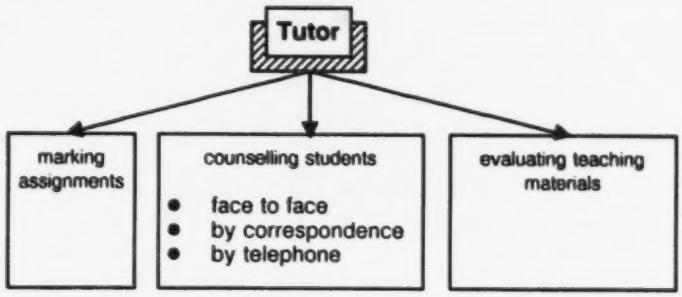
Tutorial Support

You already know from your own experience that a tutor often has to respond not only to student's questions that refer to the subject matter but also to questions on the distance teaching system in general, for example dispatch,

complaints, and enrollment problems. Therefore tutors need thorough knowledge of the institution they are working for.

Tutors can communicate with their students by post, through face-to-face tutorials or over the telephone. Effective tuition can considerably reduce the drop-out rate and provide an important source for evaluation of the course. Also, good tutors may be the future authors of correspondence texts.

The functions of a tutor include

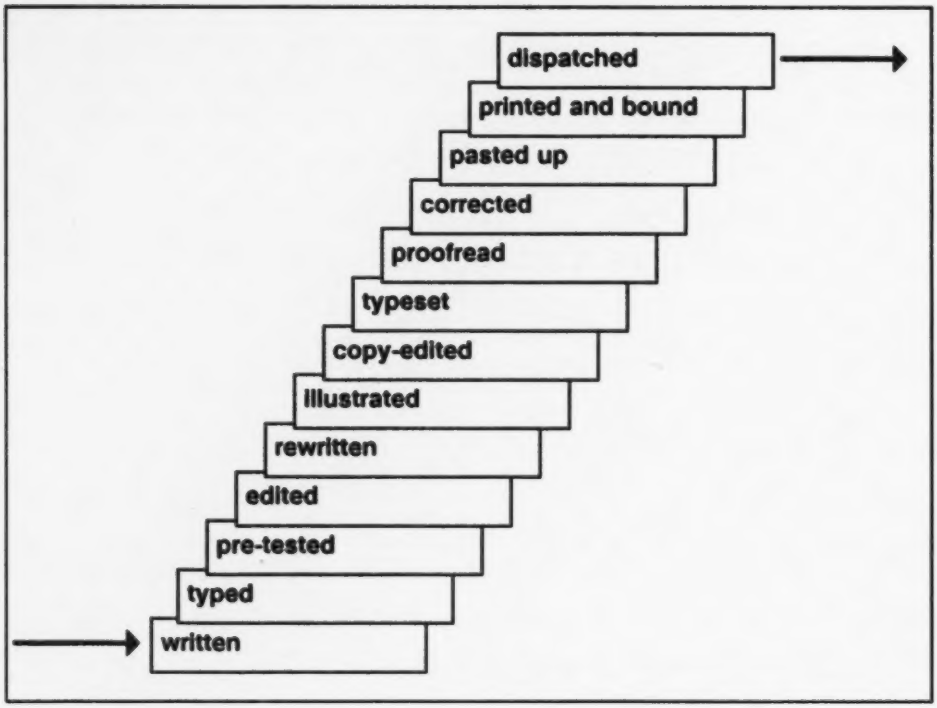


Copy Editing, Printing and Dispatch

When your unit has been written and assessed by colleagues, tutors and learners it still needs to be copy edited. You also need to decide on the format and layout of the unit. Next, the material has to be illustrated. After all the illustrations are complete and the corrections made, the unit is then pasted up into pages. It is finally ready to go for printing and binding. When this process is complete the unit is ready to be dispatched.

Do you remember the various steps from writing to dispatch?

Look at this illustration which reminds you that each unit is



Self-test 19

Answer these questions.

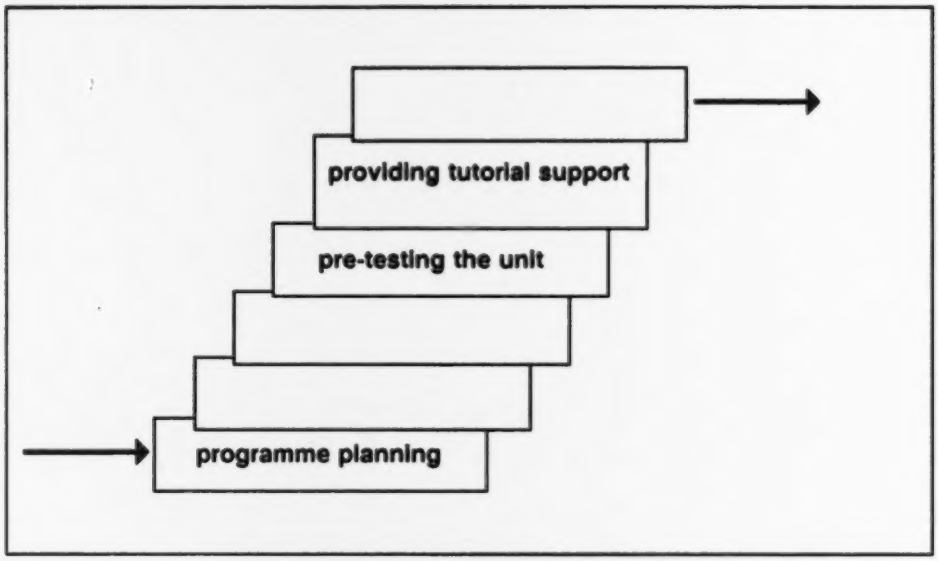
1. What are the four main things you need to consider when doing programme planning?
2. Name at least six things you need to make decisions about during course planning.
3. List at least six main parts of a unit.
4. Which groups of people can give you valuable feedback on your unit?
5. Name four methods you can use to get feedback.
6. Name three ways tutors can communicate with their learners.
7. List the three main functions of a distance education tutor.

Check your answers. We hope you did well in this final self-test.

Since this unit is a summary, there is no checklist. Please do the last assignment now.

Assignment

1. Here are six steps in course development. Complete the steps by filling in those that are blank.



2. Make a list of the categories of staff who are involved in each of the six steps of course development in your institution.
3. Give a detailed explanation of support services provided by your institution.

Answers to Self-tests

Self-test 1

1.	F	6.	F
2.	F	7.	T
3.	T	8.	F
4.	F	9.	T
5.	T	10.	F

Self-test 2

Gagne	d	Ausubel	b
Bruner	g	Egan	c
Skinner	f	Holmberg	e
Rogers	h	Rothkopf	a

Self-test 3

1. principle
2. vary, differ, or change
3. six
4. instrumental
5. inferior
6. networking

Self-test 4

1. Any 4 of the following:
   principal or director
   chief finance officer
   members of distance education department
   subject specialists
   student counsellor
2. Any 4 of the following methods:

print	telephone
radio	face-to-face teaching
cassette tapes	television

3. The constraints are finance, policy, number of staff, time, audio-visuals available, mode of delivery and postal services.

4. Any six decisions include
   - what form the materials will take;
   - which media will be used;
   - how they relate to each other;
   - how long the programme will take;
   - the number of learners that will be involved;
   - what administrative arrangements will be needed;
   - what information for feedback and evaluation will be collected;
   - how it will be collected;
   - who will carry out all the tasks involved;
   - the budget for the programme.

5. Two main aspects are defining the course objectives and outlining the course content.

Self-test 5

1.	P	6.	C
2.	C	7.	U
3.	U	8.	P
4.	P	9.	C
5.	P	10.	U

Self-test 6

1. List any of the following eight:
   c. marital status
   d. family size
   e. social status
   f. financial resources
   g. health status
   h. personal commitments
   i. occupation
   j. motivation

2. List any of the following four:
   b. quiet place to study
   c. study guides and texts
   d. reference books
   e. stationery

3. List any of the following eight:

   b. course content
   c. course duration
   d. how the course is organized
   e. number of hours learners need to study per week
   f. how to plan study time and arrange the learning environment
   g. support services available
   h. financial requirements
   i. assessment methods

Self-test 7

A

1	5
2	6 √
3 √	7 √
4 √	8 √

B

Affective	Psychomotor	Cognitive
approve	design	list
influence	pick up	rewrite
accept	assemble	classify
follow	touch	compute
share	push	order

Self-test 8

1. D
2. A
3. C
4. D
5. C
6. A
7. B
8. D

Self-test 9

1. F
2. T
3. T
4. F
5. F
6. T
7. F
8. T
9. T
10. F

Self-test 10

A

Distance Education Unit	Textbook
	one-way communication
friendly and encouraging guided learning	
	lecture
	little application of knowledge and skills
learner is active	
feedback	

B

3
7
4
1
6
2
5

Self-test 11

1. Yes
2. Yes
3. No
4. No
5. No
6. Yes
7. Yes
8. No
9. Yes
10. No

Self-test 12

1. A4
   A5
   B5 or foolscap

2. 10 point
   11 point
   12 point

3. Univers
   Times

4. Title of course
   Title and number of unit
   Name of institution

5. Copyright holder
   date of publication

6. The more detailed it is the more the learner can know what to expect in the unit.

Self-test 13

1. consistent
2. subheadings
3. self-explanatory
4. instructions
5. spelling, capitalization and abbreviations
6. italics
7. layout

Self-test 14

1. symbol
2. line drawing
3. shaded line drawing
4. painting
5. cartoon

Self-test 15

1. F
2. F
3. T
4. T
5. F
6. T
7. F
8. T
9. T
10. T

Self-test 16

1. structure – substance – symbols
2. visuals – verbal text
3. horizontal – vertical
4. structure – sequence
5. credit
6. uniform
7. yourself
8. group editing
9. self-editing
10. copy edited

Self-test 17

pre-test	9
sample	3
peers	10
interview	1
questionnaire	8
test	2
discussion group	4
to tally	5
to analyse	6
respondent	7

Self-test 18

1. D
2. B
3. A
4. C
5. B
6. D
7. A
8. C

Self-test 19

1. educational objectives
   learner needs and characteristics
   institutional framework

2. Any six of the following

   the course title
   the target group
   the aims and objectives of the course
   the content of the course
   the teaching strategies
   assessment methods
   the study time needed
   resource materials

3. Any six of the following

   title
   table of contents
   introduction
   objectives
   study notes on the subject matter
   activities
   assignment
   symbols
   illustrations

4. experts
   peers
   learners

5. interviews
   questionnaires
   tests
   group discussions

6. post
face-to-face
telephone

7. marking assignments
counselling students
evaluating teaching materials

References

Ausubel, D.P.

Educational Psychology: A Cognitive View. New York: Holt, Rinehart and Winston, 1978.

Baath, J.A.

How to Optimize the Learning Conditions of Correspondence Education. Paris: EHSC, 1976.

Ballewski, G., W. Hensel, W. Laaser

Kursgestaltung in der Weiterbildung. München, 1979.

Bhola, H.S.

Evaluating Development Training Programmes. Bonn: German Foundation for International Development, 1982.

Writing for New Readers: A Book on Follow-up Books. Paris: UNESCO, 1988.

The Chicago Manual of Style. The 13th Edition of a Manual of Style, Revised and Expanded. Chicago: The University of Chicago Press, 1982.

Davies, I.K.

The Management of Learning. London: McGraw-Hill, 1971.

Dawal, O. et al.

Writing for Distance Teaching. New Delhi: Open School, 1981.

Dodds, T.

Administration of Distance Teaching Institutions. Cambridge: International Extension College, 1983.

Hamilton, D. et al.

Beyond the Numbers Games. London: Macmillan, 1977.

Helms, F.P., W. Laaser, K. Sander

Gestaltung schriftlicher Studienmaterialien im wirtschaftswissenschaftlichen Fernstudium. Hagen: Zentrum für Fernstudienentwicklung, Fernuniversität, 1982.

Holmberg, B.

Distance Education, A Short Handbook. Stockholm: Liber Hermods, 1987.

Essentials of Distance Education. Hagen: Fernuniversität, 1982.

Holmberg, B., ed.

Selected Papers on Distance Education. Hagen: Fernuniversität, 1982.

Hooper, R.

The Curriculum: Context, Design and Development. Edinburgh: The Open University, 1971.

International Extension College

Writing for Distance Education: Manual. Cambridge: International Extension College, 1979.

Writing for Distance Education: Samples. Cambridge: International Extension College, 1979.

Jenkins, Janet

Course Development: A Manual for Editors of Distance Teaching Materials. Cambridge: International Extension College and Commonwealth Secretariat, 1985.

Kamau, J., ed.

The External Degree Programme Training Manual. Kikuyu: College of Adult and Distance Education, 1984.

Matiru, B.

Designing Distance Education Programmes. A Guide of Course Writers. Kikuyu: College of Adult and Distance Education, 1982.

Zentrum für Fernstudienentwicklung

Kurze Anleitung zur Entwicklung und Gestaltung gedruckten Studienmaterials. Hagen: Fernuniversität, 1985.

Authors

H.S. Bhola is Professor of Education, Indiana University at Bloomington where he teaches and conducts research in the areas of instructional systems technology and educational policy studies. He has led several workshops for middle level development workers in Eastern, Central and Southern African countries on the topic of writing for new literates and learners enrolled in distance education programmes.

Eli Chen is Communication Media Specialist and Managing Director of 'Chen Production Company' in Tel Aviv, Israel. He was Head of Department at the National Institute for Training and Teaching Aids, Government of Israel; from 1974 to 1976 Expert for Teaching and Training Aids at the National Training and Teaching Aids Centre in Bangkok, Thailand; 1981 to 1984 Audio Visual Aids Expert at the Ministry of Agriculture, Lilongwe, Malawi. Consultancies for the World Bank and the German Foundation for International Development.

D. Gachuhi is a consultant in distance education in Eastern Africa. She has worked for the College of Education and External Studies (CEES), University of Nairobi, The Kenya Institute of Special Education (KISE) and the Institute of In-Service Teacher Training, Mogadishu, Somalia. As a consultant she has expertise in training writers, course planning and development and editing. She has also done consultancies in Zimbabwe, Zambia and Tanzania. Her publications include textbooks for primary school, contributions to distance education texts and articles on distance education. Currently she is working as a health trainer/curriculum specialist for Thunder and Associates in the Ministry of Health, Nairobi, Kenya.

J. Kamau is the editor, Faculty of External Degree, College of Education and External Studies, University of Nairobi. She was deputy director for The Hadley School for the Blind. She has served on the Faculty of the Writers Workshops and has trained writers in Zaire and Mauritius. She has developed training materials for the CEES and co-authored three primary school textbooks.

Dr. **Wolfram Laaser** is Co-ordinator of the didactic sections within the Institute for Distance Study Development (ZFE) at Fernuniversität Hagen, West Germany. He has published numerous articles on various topics related to distance education and produced audiovisual courseware in Germany, Australia and Latin America.

B. Matiru worked with CEES for ten years as a course writer, editor and trainer of writers for distance education materials. She has also served as a consultant for University of Botswana, International Co-operative Alliance,

International Extension College and DANIDA in Botswana, Zambia, Tanzania and Somalia. She has published a number of primary and secondary school books. She has also contributed chapters to reference books on distance education. She is currently the DSE Liaison Officer in Nairobi, Kenya.

K.A. Mazrui has been a lecturer at CEES since 1969. He has written and edited a number of distance education courses. He is the Course Director for the Inservice Teachers Programme and the co-ordinator of the DSE/CEES workshop series.

Dr. **Josef Müller** is Head of the Non-Formal Basic Education Section of the German Foundation for International Development, Centre for Education, Science and Documentation, Bonn, Federal Republic of Germany. He developed in co-operation with the colleagues of the College of Adult and Distance Education the Workshop Series on Writing of Distance Education Materials in Kenya. Publications mainly in the field of literacy.

173

German Foundation for International Development

DSE IN BRIEF

- Type of organization: foundation established under civil law in 1959
- Organs: Board of Trustees with 18 members representing the Federal government, State governments, the Federal Parliament, trade and industry, the trade unions and the academic world; Executive Office with Director General and Deputy Director General
- Staff: 460 staff members in 1987
- Budget in 1987: DM 83.3 million
- Participants in 1987: 7,805 of whom 5,988 came from developing countries
- The seat of the DSE is Berlin. It also maintains specialized Centres at various locations in the Federal Republic of Germany.
  Berlin: Executive Office, Development Policy Forum (EF), Development Information Centre (EPIZ), Central Administration, Economic and Social Development Centre (ZWS), Public Administration Promotion (ZÖV)
  Bonn: Education, Science and Documentation Centre (ZED)
  Bad Honnef: Area Orientation Centre (ZA)
  Mannheim: Industrial Occupations Promotion Centre (ZGB)
  Feldafing: Food and Agriculture Development Centre (ZEL)

TERMS OF REFERENCE

- Dialogue and exchange of experience between industrial and developing countries; promotion of the South-South dialogue
- Initial and advanced training of specialized and managerial personnel from developing countries
- Further training of German experts working in the field of development cooperation
- Preparation of German experts and their spouses/partners for their assignments in developing countries; further training of the inland staff of German development agencies
- Information and documentation in the field of development policy and developing countries
- Development of curricula and teaching materials for various areas of development cooperation

PERIODICALS

- 'Entwicklung und Zusammenarbeit' (E+Z), published in German in cooperation with the Carl Duisberg Society (CDG) (monthly)
- 'D+C', English, French and Spanish/Portuguese editions of 'E+Z' with regionalized content, published in cooperation with CDG (every two months)
- 'Echo aus Deutschland', published in German in cooperation with the CDG (every two months)
- 'entwicklung+ländlicher raum' (e+l), published in German in cooperation with the German Agency for Technical Cooperation (GTZ) and the German Agricultural Society (DLG) (6 times a year)
- Annual reports, in German, from 1960/61 onwards
- DSE Catalogue: Catalogue of DSE publications (annually)
- Calendar of seminars, courses and conferences in the field of development cooperation (quarterly)
- Developing country studies: bibliography of German research projects in the field of development, published in German (annually)

174

SELECTED AREAS OF WORK

Development Policy Forum (EF)

- Interdisciplinary meetings at policy level on current issues of North-South and South-South cooperation
- Joint activities with international organizations within and outside the UN system in the fields of development strategies, economic cooperation and sociocultural relations

Education, Science and Documentation Centre (ZED)

- Development of curricula/teaching aids for primary schools and teacher-training
- Promotion of literacy campaigns
- Development of distance study courses for staff of basic education programmes
- Advanced training of sports specialists for work in teacher-training or school-sport administration
- Further training of university lecturers in the fields of teaching, research and advisory assistance
- Support for measures to improve infrastructure in the field of science and technology
- Further training of librarians and of documentation and information specialists
- Collection, analysis and dissemination of specialized information on development policy and developing countries
- Central coordination and provision of information on the specialized field of development cooperation

Economic and Social Development Centre (ZWS)

- Advanced training in the fields of urban and regional development, surveying and cartography
- Project management methodology
- Support for economic reforms and advisory services in the field of economic policy
- Support for the development and setting up of primary health services
- Training in the fields of health education, drug monitoring and epidemiology
- Development and promotion of new credit facilities and target-group-oriented financing instruments

Area Orientation (ZA)

- Familiarization of German experts and their spouses/partners with the language, history, geography and institutions of the Third World countries to which they are to be assigned (three-month seminar)

Public Administration Promotion Centre (ZÖV)

- Increase the efficiency of tax and customs administration, budgeting and accounting, and public financial control
- Strengthen local self-administration and promote decentralized administrative systems
- Promote school and institutes of administration
- Improve development cooperation and economic cooperation within foreign services
- Further refine the concepts of administration promotion

Industrial Occupations Promotion (ZGB)

- Technical and didactic further training of teaching and managerial staff for vocational schools and in-plant training establishments; further training of lecturers engaged in teacher-training
- Measures to promote and support vocational education centres
- Follow-up activities: seminars and the mailing of specialized literature
- Vocational training programmes to promote small enterprises in the informal sector
- Promotion of the crafts through vocational training

Food and Agriculture Development Centre (ZEL)

- Food security and food strategies
- Agricultural research and experimentation
- Integrated rural development
- Promotion of agricultural marketing, agricultural credit for small farmers
- Self-help organizations, cooperatives
- Agricultural training, extension and information
- Plant production, including seed and plant material multiplication
- Plant protection, including post-harvest and storage protection
- Agricultural engineering and soil and water management, including irrigation
- Forestry (with emphasis on energy supply and desertification and erosion control) and ecosystem conservation
- Animal production, including veterinary medicine and animal health services
- Marine and freshwater fishery, including aquaculture
- Nutrition services (nutritional education, food hygiene, food technology)

Development Information Centre (EPIZ)

- Events providing information on development policy and developing countries for groups of school-children, young people and adults

University of Nairobi
College of Education and External Studies (CEES)

CEES IN BRIEF

1. Historical Development of the University of Nairobi

The history of the University of Nairobi dates back to April 1956 when the Royal Technical College of East Africa opened its doors to the first intake of students. The Royal Technical College was transformed into the second University College in East Africa in 1961 under the name Royal College, Nairobi. Three years later, it was renamed University College, Nairobi. The institution underwent many accelerated changes that culminated in the establishment of the University of Nairobi in 1970 by an Act of Parliament.

The University of Nairobi is headed by a Vice-Chancellor assisted by two Deputy Vice-Chancellors, one being responsible for finance and administration and the other one for academic affairs. Under the revised 1985 University of Nairobi Act, the University comprises six Colleges, each headed by a principal. They are

1. College of Agriculture and Veterinary Sciences (CAVS), Kabete Campus,
2. College of Architecture and Engineering (CAE), Main Campus,
3. College of Biological and Physical Sciences (CBPS), Chiromo Campus,
4. College of Education and External Studies (CEES), formerly College of Adult and Distance Education, Kikuyu Campus,
5. College of Health Sciences (CHS), Kenyatta National Hospital Campus,
6. College of Humanities and Social Sciences (CHSS), Main Campus.

2. College of Education and External Studies (CEES)

In 1961 the then College of Social Studies was established at Kikuyu Campus as an independent centre for residential adult studies. In 1963 the College of Social Studies and the Extra-Mural Department, which was formerly run by Makerere University in Uganda, were integrated to constitute the Institute of Adult Studies. In 1966 the Institute of Adult Studies was renamed the Adult Studies Centre. A year later the Centre received a third section, the Correspondence Course Unit. The three sections were renamed the Institute of Adult Studies.

When the University of Nairobi was reorganized into six colleges, the then Institute of Adult Studies was elevated to the status of College of Adult and Distance Education. The College started the Faculty of External Degree Studies in 1985. In view of the increased intake in the four Kenyan public universities in 1988, Kikuyu Campus has been restructured and given still another name, College of Education and External Studies.

According to the new structure the College of Education and External Studies comprises two institutes and four faculties with the respective departments:

1. **Faculty of Education**

   Department of Educational Foundations
   Department of Educational Administration and Planning
   Department of Educational Communication and Technology
   Department of Technical Education

2. **Faculty of External Studies**
   Department of Education
   Department of Extra-Mural Studies
   Department of Distance Studies
   Department of Legal Studies
   Department of Business Studies

3. **Faculty of Science**
   Department of Biological Sciences
   Department of Physical Sciences
   Department of Mathematics
   Department of Home Science

4. **Faculty of Social Sciences**
   Department of Business Studies
   Department of Economics
   Department of the English Language
   Department of Geography
   Department of History and Government
   Department of Kiswahili
   Department of Literature
   Department of Philosophy and Religious Studies
   Department of Psychology (services the Faculty of Education)

5. **Institute of Adult Studies**

6. **Institute of Educational Research**